

The Centre for Research on Higher Education and Work of the University of Kassel appreciates the opportunity of publishing a collection of essays on the diversification of higher education Henry Wasser has written in recent years.

Both the American and the European reader will be made aware of the variety of notions held regarding the diversity of higher education. Henry Wasser clearly favours efforts to keep differences of quality and function within higher education in bound thus ensuring chances for the socially and educationally disadvantaged students to share common experiences with the more successful ones and facilitating a cross-fertilization of teaching and research across all sectors and levels of higher education.

ISBN: 3-928172-05-0

Wissenschaftliches Zentrum
für Berufs- und Hochschulforschung
Universität Gesamthochschule Kassel



Henry Wasser

Diversification in Higher Education

Werkstattberichte 56

Reihe WERKSTATTBERICHTE

150. WZ W 56

Henry Wasser

Diversification in Higher Education

Wissenschaftliches Zentrum für
Berufs- und Hochschulforschung
Universität Kassel
Dokumentation WZI
Mönchebergstr. 17
D-34109 Kassel
Tel. (49) 0561/80424-15
Fax (49) 0561/8043301/7415
E-mail: wz1@hochschulforschung.uni-kassel.de

WERKSTATTBERICHTE - Band 56

Wissenschaftliches Zentrum
für Berufs- und Hochschulforschung
der Universität Gesamthochschule Kassel

Kassel 1999

WZ 1999

WERKSTATTBERICHTE

Contents

Foreword <i>by Ulrich Teichler</i>	7
1 Introduction	9
2 Teaching and Research: Tension and Balance	15
3 Redefining Autonomy of Universities	21
4 Changes in the European University: From Traditional to Entrepreneurial	29
5 Changing Relations Between University and State: Sweden and U.S.A. - A Comparison	41
6 Recent Trends in American Higher Education	47
7 Relation of Short-Cycle Higher Education to Universities - Separate, Merged, System or Branch?	59
8 Short-Cycle Higher Education: A Comparative View	69
9 Central European Higher Education: Problems and Perspectives	75
10 The University: Does it Have a Future?	85
References	93

Copyright ©1999 Wissenschaftliches Zentrum
für Berufs- und Hochschulforschung
Universität Gesamthochschule Kassel
Henschelstr. 4, D-34109 Kassel

Redaktion: Christiane Bradatsch

Druck: Druckwerkstatt Bräuning + Rudert GbR, Espenau

ISBN: 3-928172-05-0
Verlag Jenior & Preßler
Lassallestr. 15, D-34119 Kassel

Foreword

We appreciate the opportunity of publishing a collection of essays Henry Wasser has written in recent years. Rather than asking colleagues to write essays as a *Festschrift* to celebrate his 80th birthday, we like to read and to listen to his own words. For Henry Wasser makes us aware of the fact that the loudest voices in the academic community are not necessarily based on the deepest thoughts.

After a successful career as a professor of English, and stays in several European countries as a visiting professor, and after various administrative posts in higher education institutions, Henry Wasser began at the age of 55 years to foster a dialogue between European and American scholars on higher education and to get involved in higher education research himself. Notably, his positions as director of the Center for European Studies at the Graduate School of the City University of New York and as president of CUNY's Academy for Humanities and Sciences allowed him to contribute to the field of comparative higher education.

Henry Wasser makes both the American and European readers aware of the variety of notions held regarding the diversity of higher education. He clearly favours efforts to keep differences of quality and function within higher education in bound thus ensuring chances for the socially and educationally disadvantaged students to share common experiences with the more successful ones and facilitating a cross-fertilization of teaching and research across all sectors and levels of higher education, but the liberal approach in his thoughts also cannot be ignored by those who do not share his values.

The Centre for Research on Higher Education and Work of the University of Kassel is pleased to publish this collection of essays in cooperation with the City University of New York Academy for the Humanities and Sciences. We remember well a series of joint conferences which lead to a major publication of analyses of efforts aiming to introduce comprehensive models of higher education in various countries (*The Compleat University: Break from Tradition in Germany, Sweden and the U.S.A.*, edited by H. Hermanns, U. Teichler and H. Wasser, Cambridge, MA: Schenkman, 1983) as well as to a collection of essays on the mutual influences of German and U.S. higher education (*German and American Universities: Mutual Influences in Past and Present*, edited by U. Teichler and H. Wasser. Kassel: Wissenschaftliches Zentrum für Berufs- und Hochschulforschung der Universität Gesamthochschule Kassel, 1992). We are grateful to Christiane Bradatsch for her editorial work and to Dagmar Mann for the preparation of the camera-ready manuscript.

Ulrich Teichler

Introduction

My exploration of diversification in higher education has been of long standing. It began basically during the early formation of a diversified system, existing in more or less separate units, which has spent the last three decades trying to become integrated, with varying degrees of success and failure - City University of New York (CUNY).

The system differed from the extravagantly praised California system of higher education which managed to have its stratified, three-tiered, three kind of status, separate boards of trustees and faculties, noble, less noble, and least noble categories (University of California, California State Universities and Colleges, and Community Colleges) tolerated by their electorate. City University of New York on the other hand took on the daunting task in the interest of open admissions, equal opportunity and even equal outcomes, integrating its two year colleges, four year general and technical colleges, doctoral granting institution and such professional schools as law, medicine, social work, business and public administration. CUNY for decades has faced the complex problems these issues have confronted in various ethnic and racial minorities. To be sure, it will likely in the near future be transformed by an interventionist board of trustees selected by an archly conservative governor and mayor. But its thirty years of struggle did produce thousands of competent professionals who without that education would have remained in the underclass.

I was uniquely favored with the opportunity to perform in most of the roles in academia - professor, scholar, researcher, academic dean and vice president, research center director, trustee, academy president and faculty senate head. This enabled me to study the multiple aspects of university operation.

I was additionally fortunate to be able to leaven New York City parochialism with extensive stays in Europe as Fulbright professor, seminar leader, visiting professor, lecturer, conference participant and paper presenter, international board and steering committee member and research grantee.

These experiences permitted me to view comparatively significant issues confronting higher education at least in Europe and the United States. My compa-

rative perspective although nourished by examining the relevant literature was heavily influenced by these activities. With this preamble I turn to a brief excursion into the complex subject of diversification which has been the subject of considerable study by higher education policy analysts. While there is substantial agreement about what it is, serious disputes have arisen about its origins.

Summary phrasing includes assertions that differentiation is the direct consequence of growth and expansion (Martin Trow), the result of knowledge production and dissemination (Burton Clark), linear and evolutionist and thus oversimplified (Claudius Gellert). Its discussion has been too generalized from American experience. Consequent massification of higher education has been the product of the diversity of interests, abilities and previous learning of higher education's clientele particularly students (J. Ratcliff).

Much has been claimed for the concept - the process of differentiation has been called the biggest change in higher education since the developments of the research function in the universities following the Humboldtian reforms in Germany in the 19th century.

Diversity or differentiation can mean assigning distinctive aims and purposes often practically and vocationally oriented, fulfilling specific needs of the economy, educational opportunities for formerly disadvantaged groups, promoting equality goals and the democratization of the educational system, and lower costs often for tertiary education structures (vocational, practical, paraprofessional).

For some analysts it is differentiation *and* diversity that are important policy issues in the structuring of current higher education systems. Generally policy makers are thought to presume that differentiated and diversified higher education is essential to cope with present and future needs of the increasing heterogeneity of the student body, the changing labor market and an increasingly complex society.

The motivation of diversity is customarily declared to be to optimize the responsiveness of higher education systems to societal needs, to be more flexible, adaptive and responsive to the needs of society and economic priorities, to have a greater participation rate in higher education among age cohorts. The strength of the American system lies, it is asserted, in its diversity.

The question, of course, arises as to what tasks to assign to universities and what education to place in other types of higher education institutions. The answer is somewhat different for each country, but it is clear that stability in diverse higher education systems is dependent upon legitimation of roles and tasks for different types of institutions. Self-interest of institutions residing in the context of the spread of benefits from a limited pool in resources is one answer, and the permeability of boundaries between different types of institutions is another.

For the Netherlands the level of systemic differentiation was increased by creating new types of institutions with the aim of permitting higher participation rates. Even where systemic differentiation was modest, informal differentiation

based on research function and stratification of the student body occurred. Employment opportunities could overcome status distinctions. For example the Stavanger District College in Norway was highly selective in its admissions, much more so than Norwegian universities since its technical programs (2 or 3 year in duration) led immediately to higher paying technical positions at the oil rigs on the North Sea.

Another unexpected consequence was that although the university degree itself in times of recession might lead to a position formerly held by a holder of a secondary school or vocational diploma, the job itself might be upgraded in function and importance by being occupied by a university graduate.

Furthermore the proliferation and diversification of higher education were developed with great reluctance by most countries. Only in U.S.A. with its "privatization of culture" did they come easily, nourished by the well-established private post-secondary education along with massive public higher education. European nations were closely constrained in creating new institutions and new kinds of institutions as compared with the rapid multiplication of colleges and universities of all kinds in U.S.A. over the past two centuries.

The worry also existed in Europe that diversification would have an adverse impact on a still strong egalitarian impulse especially in Northern Europe. Standards were seen as threatened by growth and diversification - growth would influence the level of quality and diversification would upset the equivalence and community of standards. Short-cycle higher education was often seen as inferior and therefore an obstacle to egalitarianism. But then again even in universities some disciplines were seen as inferior, some institutes viewed as elite and thus within the university itself diversification was clearly evident, internal instead of external diversity.

Yet American diversity could be thought to have led to diversity since 10% of all blue collar workers were college graduates and 25% had some experience of post-secondary education.

Diversity of funding for higher education brought a few policy analysts to unwarranted optimism about American higher education. They thought the increase in private funds for public colleges and universities would give their lay boards more autonomy, similar to that supposedly enjoyed by trustees of private institutions. The reality has been that the politically appointed boards in state after state have hearkened to the governors who selected them rather than the putative independence increased private funds in the budget was supposed to give them. Indeed the concomitant increase of public funds to private universities has led to constraint by state agencies and a consequent lessening of autonomy.

While it may be valid to assert that active diversification can be promoted by competitive autonomy, it can also be questioned whether autonomy in higher education has been truly achieved.

Moreover the contemporary surge of support for privatization and a free, open market economy in higher education has ignored the fact that in several American states such as New York private universities, independent and religious, have received considerable public funding in the form of state payment for each degree, bachelors, masters, doctors, awarded.

Of course diversification is not solely related to funding; it is linked to mission, objectives, research, formation of regional systems, strengthening of autonomy, service, forms of teaching and learning, market orientation and quality control, planning, etc.

It has also been pointed out that the large scale presence of institutional differentiation or diversification can be seen in the "manpower requirement approach" and the "social demand approach" where both reflect social-economic expectations.

Debate has sharpened into controversy between this derived diversification model and what came to be called the integrated model. The question arose as to what extent learning in higher education is most successfully promoted either by a relatively homogeneous or a relatively heterogeneous environment.

Structure was a key element in the dispute, in which it was stated that only a broad range of diverse concepts can explain structural developments in higher education. It was considered not just a formal category but had more to do with content than with form and consequently the non-university sectors in higher education grew in importance. Functional features such as vocationally oriented curricula, responsiveness to industrial needs, limited disciplinary offerings and concern for improving educational opportunities became more visible.

One influential conclusion was blunt. The main segments of tertiary education for analytical reasons should be kept separate; otherwise it would be too difficult to identify and analyze differences in major objectives between the universities and the non-university sector or other forms of advanced training. Future analyses should emphasize structural differentiation less and functional or qualitative and historically informed characteristics of tertiary education and research institutions more. The historical origins of higher education had to be understood before the diversification processes began, in order to comprehend current tertiary education (Claudius Gellert).

Such functionalists believe that to understand institutional differences, or diversity or differentiation in higher education a methodological perspective is necessary in which functions or rules and tasks are of primary importance with historical dimensions as well as more recent societal and political factors.

The importance of individualized historical development can be exaggerated. Each of Gellert's models derived historically requires caution. The personality model of England has been modified by the factor of the former polytechnics and the rise of research. The research/professional model of Germany has been imperiled by massification. The American triad model (college liberal education,

professional graduate school, research academic graduate school) has been compromised by training, vocational, technological curricula. And the training model in France - hierarchical, professional grandes écoles, Napoleonic - has been altered by economic imperatives.

Overall, globalization has blurred the distinctiveness of these models so that their individual national characteristics have become global models of varying mixtures of personality/character development, research, professional, training emphasis.

And yet even in globalization it is not yet clear whether the integrated form - City University of New York, for example - wherein students are admitted with different prerequisites and abilities to the same institution, even to common courses of study, will prevail. These degrees then would appear to differ in academic standards to a lesser extent than is true of a diversified structure. In diversified form the system units are distinctive in their major goals as well as in their academic standards and the institutions are to a degree permeable in contrast to a clearly segmented system, and corrections of educational careers where appropriate may result.

My sympathies incline toward the integrated model and the ensuing essays deal with issues that have surfaced in this debate - autonomy, structure, access, industry, the state, research and teaching. It should be noted again that they are more a product of experience and analysis than participants in the rarefied atmosphere of policy formulation and evaluation.

Teaching and Research: Tension and Balance

The ability to shift balance between the functions of teaching and research is part of the flexibility that helped obtain support for universities. Of course, tension between the two functions did not disappear. Research was supportive of the teaching as there was comradeship in investigation and enlightened appreciation of achievement. The goal of helping someone else know something (or how to do something) that he did not know before at times contradicted the objective of making known something never known before.

These two versions of the pursuit of knowledge were more affected by the immediate situations of institutional stress than by working out their ultimate goals. Both were reshaped by the demands of a democratic, industrializing society. The presence of these social pressures helped bring about an alliance of teachers and researchers (and teaching and research proclivities within the individual). The university's flexibility and its bureaucratic elaboration included both functions even when their antagonism could not be hidden or eliminated.

Recently the proportion of available research funding against total costs has begun to diminish substantially. The discussion of the extent to which the two activities are separable is carried out as if there were only one kind of research and one kind of teaching. But there are different connections across a range of types of institutions and across subject fields to inform the debate over policy.

The tradition, indeed, has been that of a functional unity between teaching and research (Humboldt). Consequently the content of teaching was thought to be a direct result of the professor's research. The concept of the „unity of research and teaching“ led to the expectation that the professional role of academics should be so outlined that specific insights and results of their individual research activities become directly the substance and content of their teaching. Research outcomes were to be used immediately for teaching purposes. But some have noted an increasing discrepancy between the traditional research orientation of university teachers and their factual involvement in professional and vocational training of large numbers of students.

Another perspective is developed when scholarship as differentiated from research and teaching is brought into play. Here it is stated that the primary resource in university teaching is the scholarship of the faculty. The notion is that content, structure and process knowledge inherent in scholarship can contribute to effective teaching and learning but only when all three of these forms of expert knowledge are explicitly taught. The scholarship outlook then would constitute a meaningful context from which to engage a broader spectrum of faculty in communicating about teaching and learning. This scholarship-based instructional development context might achieve learning outcomes that closely approximate the model of apprenticeship in disciplines.

A different policy approach remarks that both teaching and research are highly specialized activities within the primal unit, the department, in which the dynamics in both is toward more and more specialization - new discipline and new basic and sub-units are created. In general from the vantage point of the basic unit, research is more of a disintegrating force than is teaching.

Laboratory research is particularly good in creating cohesive sub-groupings for up to ten people with little or no communication between such groupings. Teaching operates differently, for it keeps together what extremely specialized research breaks apart. Consequently for teaching on the undergraduate level the department is a meaningful social unit.

The natural sciences having an agreed up core of knowledge can build specialization; the social sciences and humanities not having such a core have many more conflicts over teaching and research.

In the late 1950's the Nordic countries experimented with further segmentation of the two functions. Full-time teachers at the undergraduate level were given no time for research. This rule became a disintegrating force within Swedish university departments and was modified. Heads of departments determined teaching loads of lecturers and the extent to which their time was to be devoted to research. Staff members who unite teaching, particularly at the undergraduate level, with research made up probably the main integrative force in the basic unit's life. Division into researchers and teachers, into graduate and undergraduate teaching, leads to disintegration detrimental to basic unit/department/institute cohesion and overall performance.

Lewis Elton has been prominent among analysts who address the issue by adding scholarship (or study) to research and scholarship, believing that the addition may be the possible link that is necessary for research and teaching to benefit from each other. Scholarship in this view is the new and critical interpretation of what is already known. It is an activity of critically interpreting what is already known which may be applied not only to research but also to teaching, consulting work, administration, management, etc.

Grounding in theory and reflecting in practice are more prevalent in research than in teaching and therefore is a strong argument for continuing both research and teaching in all universities. One 1991 survey shows that those who use results from research explicitly in teaching publish less than those who could not. A second, also in 1991, discloses that the most productive researchers have the least favorable attitudes toward teaching while the least productive are the most committed to teaching. An institution in which there is no research has an inferior learning environment for students. Bringing scholarship into the environment helps the prestige of teaching but not so much as research does. And dividing higher education into research and teaching universities has deleterious consequences.

Content, structure and process knowledge inherent in scholarship is now elaborated into discovery (creation of new knowledge, pure and disciplinary research), practice (application of knowledge, applied research and development), teaching (transmission of knowledge, teaching and learning) and integration (problem oriented research-integrative inquiry). This paradigm was first outlined in a Carnegie 1990 report based on the premise that quality teaching requires substantive scholarship that builds on but is distinct from original research. The scholarship of teaching involves synoptic capacity, content knowledge and the learning process. Teaching that is not grounded in the most recent research and oblivious to interconnections with other disciplines is not appropriate for the university.

The concept of scholarship may even be extended to affect all that academics do, thus being of increasing importance in an expanding mass system of higher education.

As might be expected, interpretations of the symbiotic relationship between teaching and research vary from nation to nation. A brief description suffices to show contrast. In U.S.A. the significant historical occurrence was the creation of fellowships for graduate students which included the obligation of teaching half-time. Thus was born the graduate teaching fellow, a radical departure from the prevailing pattern, modeled upon the German practice which expected the graduate student to be dedicated solely to study. The concept of graduate teaching fellowship grew rapidly since it gave needed support for graduate students while further relieving scholarly or research oriented faculty of the much resented burden of teaching introductory courses. This circumstance has evolved into actual courses on teaching methods offered for Ph.D. candidates.

Research is also seen as relevant to teaching in the research university in that the graduate student and the research professor in the American graduate school instruct in undergraduate education a selected student body. Learning for its own sake or pure/basic research has not been significant in American universities which rather have empowered graduate level professional educators for potential policy leaders and practitioners in the world of affairs and promoted closer applied research relationships with industry.

The matter of research as totally separate from the instructional processes as at Institutes for Social Research keeps surfacing. Yet such a separation would deprive teaching of the input of original ideas, lose its flexibility and creativity while research, conducted by professional researchers, would lose its rather special character and independence stemming from the fact that it is executed by people who do not devote all their time to it.

Research can be divided into „research to order“ which is aimed at some objective, whether basic, applied or developmental and research strictly related to instruction which allows for correction of mistakes and unavoidable errors made in pursuing research to order. Yet dismantling research to order would threaten the development of all science whereas guided research at least insures the development of research related to teaching.

Integration of research and teaching seems to have taken place as a result of personal rather than institutional factors through the participation of the same individuals implementing the two different functions. At the same time conditions arise for the involvement in research of students whose teachers are also engaged in it. Integrated academic-industrial organizations can also insure the Humboldtian unity of teaching and research.

The abolition of the binary system in Australia has affected the balance between teaching and research. In some colleges and institutes the primary roles of teaching and service with applied research were encouraged, in others, research funding was denied by the government. The Ingrid Moses questionnaire comparing Germany and Australia in these matters found a shift in orientation of university staff away from teaching; indeed in all structures in tertiary education there was a general shift towards research. It did find, however, that teaching-research synergy was highest in the arts and social sciences, lowest in business and law with science and engineering in between.

The comparison found the Germans to have less satisfaction from teaching, less use of exam and assessment to revise teaching, less planning exams to diagnose what their students do and do not understand, less checking teaching assessment strategies when revising a course, less going out of their way to help students with learning difficulties, less regular reading of literature about teaching strategies. A caveat was that German higher education students are older and therefore need less nurture.

Research in this study included recognition by publications, requests to referee manuscripts and grant applications and joining editorial boards of journals. The non-university higher education sector is thought to have a high level of activity with respect to research in informal discussion with colleagues, participating in staff-post graduate student seminars, delivering conference papers, teaching a subject in one's research area, and maintaining professional contact with colleagues overseas. But positions which demand both teaching and research will

inevitably be filled by those with qualifications primarily in research. And regular peer review makes research quality judgment more accurate than teaching assessment which uses self-evaluation and student evaluation. While outstanding teachers bring something from their research into teaching, outstanding researchers see themselves doing so more often.

Much discussion on this issue has been published in the United Kingdom. The „University-model“ of inseparable nature of teaching and research has been challenged because effective courses are believed only to give a sound basis for graduate study and research but also to link more closely to needs, capabilities and wishes of students, young and old, and also for continued learning in a wide range of employment, thus leading to change in content, process, duration, assessment and outcomes of courses. Consequently a restatement of the traditional claim that teaching is provided by those active in research has to be made by redefining or distinguishing different kinds of research: fundamental research, contract research and scholarship. Scholarship and advanced study are seen as the duty of all who teach in higher education whether college or university. The purpose of scholarship is to enhance the quality of teaching; therefore its costs form part of the costs of the teaching function. Neither fundamental nor contract research unlike scholarship necessarily enhances the quality of teaching; a conclusion derived from the angle of vision of teaching. It may well not apply from the vantage point of research since important research often comes from free-standing institutes and labs.

This analysis leads to the notion of contracting the funding of fundamental research to a limited number of research universities, selected research departments and outstanding individuals. This would mean 12 to 15 research universities in the United Kingdom with the other universities (including former polytechnics) and colleges of higher education constituting the teaching sector. The flagship research university would parcel out some research to neighboring institutions of higher education in the region. Here the teachers would be expected mainly to practice scholarship and advanced study. Yet it has been pointed out a condition of being designated a research university could be to lead a network of surrounding universities opening up research opportunities to their staff and consequently enriching their teaching. Moreover with the expansion of a variety of modes in delivering of learning and the spread of high level intellectual and vocational skills, it becomes increasingly necessary to envisage higher education as confined to a limited number of specialist institutions.

Gareth Williams (1994) comes to a more dire conclusion. He has declared that the last remaining financial lifeline to the belief that teaching and research are symbiotically linked has been cut off in Britain. All funding for research received by universities will depend on the quantity and assessed quality of the research of its staff and not on the basis of any belief in the complementarity of research and teaching.

The White Paper on Science and Technology (1993) in his interpretation endorsed a dual funding principle and attempted to shift the main focus of post graduate research training away from the completion of a piece of original research towards more formal research training. The result, he predicts, will be the emergence of a small group of research intensive universities with relatively little interest in undergraduate courses except in so far as they feed their graduate schools. Other universities will become little more than training establishments to which the term university can be applied only as a matter of courtesy. Moreover since financial rewards for research will be so much higher than those for teaching, all universities will concentrate resources on improving their research, encouraging a relative neglect of teaching.

One may conclude from this brief excursion into the interaction of teaching and research that research in all its forms will require precise definitions, teaching will need elaboration of its various shapes and techniques, and the element of scholarship as it relates to both functions will have to be assessed before the existing tension can be resolved and the balance be beneficially established.

3

Redefining Autonomy of Universities

Definitions tend to lose precision over time and certainly the supposedly firm signification of „autonomy“ and „management“ has eroded under the impact of change. In 1983 Peter Scott could write of the exceptional solidarity of academic profession in Britain occasioned by its high degree of autonomy. Yet even then he detected slow lessening of autonomy brought about by the increase of part-time faculty, shift from general research funds of universities to specific grants made by research councils and the growing formal differentiation of British higher education (see Scott 1993).

It was Guy Neave in 1988 who carefully categorized and defined university autonomy. The necessity of viewing autonomy as contextually and politically defined meant studying the role of the state, for the state sets down the outer limits within which autonomy may be exercised.

Historically there have been the Bologna model that applied the notion of autonomy to the student constituency, the Paris model in which autonomy is the freedom to teach and applied mainly to academe. But the later Humboldt model gave the state the right to intervene only to guarantee the university the right to choose men to work and to guarantee their freedom to work. The state does not interfere with the „inner life“ of academe.

The British model is described best as a property-owning corporation of scholars in which the University Grants Committee, now defunct, was the arena for negotiation between state and university but in which control in effect belonged to the universities themselves (see Neave 1988).

Another model maker postulates four slightly different forms of autonomy-Kantian (state interferes only in certain subjects), Humboldtian (state has largely a facilitating role), Napoleonic (state makes most of the decisions) and British (property-owning corporation of scholars are supported by the state but are left on their own) (see Tight 1988).

A key factor that defined the nature of academic autonomy in recent decades was the expansion of higher education. In the language of the day it changed the

boundary between the university and the state. Yet the modes of change varied from country to country depending both upon individual history, state of development and culture.

For the United Kingdom the shift was toward central authority whereas France turned toward the university. And in Germany, a federal nation, the change was partly in state-Bonn relations but mainly internal in balance of power between students, staff and professional chair holders.

Chronologically, the 1960's saw a large degree of autonomy whereas the 1980's found the state playing a more dominant role with autonomy made conditional upon performance. The paradox became fully visible. The state granted autonomy, even a form of fiscal autonomy but only if prescriptive words like performance indicators, productivity, assessments, and evaluation were to have substance. Autonomy was extended only on the condition that the university fulfill national norms that are continually being negotiated in the light of public policy.

Many might agree with the notion of equating academic autonomy with the right of faculty in higher education to determine the nature of their work; the reality, however, was the state's view of universities as „instruments of public purpose“, domains of community participation and regionalization, and aspects of higher education shaped by the state (see Trow 1993).

Functionalists like Burton Clark saw the issue to be the analysis of the relative weight of the market, academic oligarchy and the state. Indeed it was internal relationships that interested him - the emerging power of the department being offset by a „thickening of the external administrative overlay.“ (see Clark 1993)

A discussion of autonomy also has its hortatory declamations. In this aspect it is regarded as revitalizing scientific research along with structures for teaching activities and responses to student and society needs. Under its rubric, universities developing their own statutes, regulations and participation of its personnel in decision-making processes.

The more comprehensive awareness of higher education in the 1990's has enabled students to learn to deal with various levels of administrative authority; this, in turn gave a different face to the autonomy of the university, at least to that part that can be called private or internal academe.

Another consequence of autonomy is the current trend to decentralize finance i.e. income from state funds and to give leeway to university management and administration to invest and expend without state interference (except to harmonize and balance).

The 1980's brought a certain degree of deregulation as a new kind of governmental strategy needed to encourage institutional initiatives; While some European governments had expressed their readiness to change regulations and policy systems in the direction of conditional autonomy (France, Germany, the Netherlands), (see Van Vught 1989) it was the '90's that ushered in acceleration and extension.

Of course, the marketing of the notion again brought about the requisite phrase-EQA, external quality assessment, for academics and TQM, total quality management for university administrators - both to be utilized in the quest for accountability.

As expected, this move toward conditional autonomy brought different results in different countries. For Belgium it meant that free universities (Catholic Leuven and liberal latitudinarian, Brussels) acquired corporate capacity and public universities (Gent and Liege) were granted extensive administrative autonomy. A new funding system re. budgets, accounts, personnel regulations treated the free in the same way as the public universities. „Remote control“ concerning higher education continued to be typical of Belgium and consequently evidence of partial direct government intervention (see Gellert 1993).

In yet another instance, Austria where it has been assumed that centrally governed federal institutions left only a small margin of autonomy in financial and personnel matters, the University Organization Bill 1993 promises radical change. It will give Austrian universities new management structures which are intended to bring about greater effectiveness in the decision-making processes, more efficiency in working with the given resources and more accountability of the deciding bodies for their management performance. Democratically represented committees are to prescribe general strategic aims for the university to be carried out by the rector and deans who are to be personally responsible for the decisions.

These changes e.g. deregulation, less detailed federal regulations, and decentralization from government level towards the new university management are expected to bring better and quicker decisions and more flexibility for the new university management in all aspects of university administration. It is then hoped that the motivation of all members of the university will be strengthened to find a common „corporate identity“ in which to produce the best results in research, teaching and learning (see Bast 1993).

A country-by-country survey in Europe as could be anticipated shows similarities in change but also deviations usually in accord with the particular cultural history.

Denmark, for example, decentralized decision-making in the last half of the '80's by giving a higher degree of freedom in educational and administrative matters. This policy of decentralization and institutional autonomy was followed by increasing demands on the output of the educational system. Outputs were to be accounted for by institutions both in qualitative and quantitative terms. The Ministry of Education set up a system of performance indicators despite university opposition. Decentralization was expected to result in more efficient institutional management (see Gellert 1993). Greater consensus and more individuality, however, ultimately came about because of the Scandinavian extensive process of

consultation and input from all interested parties and substantial, external representation on governing boards.

However in Ireland, less developed economically, the government was not satisfied with the autonomy enjoyed by the Universities but accepted the autonomy that had developed successfully in the vocationally oriented non-University sector.

Most noticeable in Italy is the gap between appearance and reality. Although the Italian constitution stipulates independence and the right of self-government for all universities, in practice all details of organization are imposed by central authority. There is the additional clash, analysts note, between those favoring the autonomy of the total university system (Ministry) and the autonomy of the individual university.

The most sophisticated approach has been taken in the Netherlands. Researchers have articulated the issues in the form of questions. How sound is the assumption of Dutch policy-makers that quality is related to autonomy? How autonomous can a system be that relies heavily on state funding? What is the relationship between autonomy and the processes of evaluation and assessment? To what extent does academic freedom presuppose institutional autonomy?

The new strategy towards higher education of „remote government control“ initially seemed to strengthen institutional autonomy. Although „open access“ continued as a policy, „quality and differentiation“ began to replace equality as a policy objective. The government assumed a positive causal link between institutional autonomy and quality of higher education, predicting that with more autonomy, institutions will react more directly to market developments.

Significantly the government did not propose to concentrate on a discipline but on a newly introduced sector (an aggregate of disciplines). This policy created nine sectors (education, agriculture, science, engineering, health, economics, law, behavior and society and language and culture). Each discipline was assigned to one of these sectors.

Quality control begins with the individual. If quality is below standard, then quality control is exercised by an independent higher education inspectorate. As to the planning cycle, it is clearly affected by the decentralization of power to individual higher education institutions. Moreover the sector categories must confront the tendency to make program level not sector identity the key to planning.

A cultural, if not education lag, exist in the more recent joiner of the European Union. The University Act of 1982 in Portugal stipulated that all higher education institutions covered by public law should be completely self-governed. But this generalization scarcely addressed funding or policy issues. Portugal continued to pass laws that gave more administrative and financial autonomy to universities and polytechnics, apparently making them more independent of the political system and more responsible for their own actions. But the concrete manifestations of this declared policy have not been evident.

In Spain it can be similarly noted that higher education is described as a system of independent and competitive units. Power over the administration is shared by three centers of authority—central government (ministry of education), autonomous communities and universities themselves. A Council of Universities debates and approves all academic matters that require centralized regulation. It consists of all public university rectors, education ministers of autonomous communities, Ministry representatives and prestigious personalities usually of academic or research background. But progress toward meeting the standards of the charter European Union members remains slow.

Amidst these analyses by higher education experts, one must take into account the speeches of those in supra-national positions which, though ceremonial, nevertheless reflect serious thinking at the loftiest levels. The UNESCO director-general, for example, has asserted that the accountability of the university is ultimately different from that of any other social actor; it must demonstrate the relevance of its role to social needs and the effectiveness with which it plays that role.

Interacting with an ever-changing environment, the university finds autonomy to be existential i.e. the university exists through the exercise of a freedom that is essentially the freedom to act. Since they affirm autonomy, the watchwords of the university should be relevance and quality. The director-general then turns to the often used warning if you do not do it, someone will do it for you. Or translated to the higher education domain, the private sector, or the state funded bodies, industry, telecommunications may well take over many of the university's functions. Although universities must institute a quality control mechanism, it cannot be the same kind as in industry because of their teaching and pure research functions. Failure to do so will bring intervention by external authority (see Mayor 1992).

Noting threats to intervene from external agencies, some analysts in the „culture“ of academe see the inherent weakness of the university to be in managing. The primary pressure on the universities is to change their „culture“ from a free, oligarchic, and consensus mode to one supported by administrative styles of management that secure value for money in terms of economy, efficiency and effectiveness. Although equating executive management to consensus management is difficult, one must still differentiate between widespread consultation as part of the process of executive management and consensus management which may imply decision-making by majorities in committees and not by executive heads after widespread consultation (see Sizer 1988).

The recent emphasis on management in universities has not brought agreement in defining „management“ and „leadership“ as they relate to the academic enterprise. Finding no tradition of a „training“ culture in universities (the notable example cited is the United Kingdom). This emphasis concludes that all academic staff likely to have management responsibility should have appropriate training and that

distinctions must be made for management education, management training and management development (see Middlehurst 1988).

A distinguished economist of higher education finds in this vein that managerial responsibilities have been devolved in that key middle managers in the United Kingdom are heads of academic departments. Managerial ability is now seen as a basic criterion for administrative appointments. The new administrative post in the universities are in fund-raising, business and industrial liaison, overseas students, public relations and connections with the European Union. For funding, governments encourage universities to seek larger proportions of their funds from non-government sources in order, among other benefits, to avoid line-by-line budgets that insure bureaucratic regulations to see that budgets are spent as intended. Lump sum budgets bring about collegial control.

Moreover the truism operates that universities with several funding sources are more genuinely autonomous than those which are dependent on a single funding body. And the ways in which higher education institutions receive their funds powerfully influence internal allocation and management mechanisms, organizational behavior and the composition of the academic services that are provided. For example, central administration as monopolistic buyers of internal academic services from dependent departments and research centers dilutes their autonomy. In addition, economies of scale in large industrial companies are not available within the unique structure of a large university.

But overall the market will exert increasing influence in bettering the academic condition since the private sector relieves the government of some of the cost burden. Since private benefits accrue to private individuals, they should, be believes, be prepared to pay for them. And services improve if the government agencies buy them from the universities rather than make grants for them (see Williams 1992).

This short excursion into the minefields of signification for autonomy and to a lesser extent management has briefly touched upon the key paradox of the topic. If autonomy can be defined by separation of universities from external authorities such as the state and its bureaucracy, it does not escape from the tyrannies of the market and the strictures of accountability. If management can be separated from administration and both from leadership, what are the decision-making centers? If universities, no longer guides, are also not corporate entities, what are they other than very long lived institutions, comparable to the age of the church. And like the church they have adapted to the external political and social environment in their own way over the centuries. But does their past guarantee life without end?

Perhaps the theme, „managing autonomous universities“ expresses frustration that while autonomy can be described in modified fashion as autonomy *from* (state, society, students, professoriate, community et. al.) rather than as an independent entity, management which has its own problem in being distinguished from ad-

ministration, let alone leadership, is simply linked to autonomy in the pious hope that thereby autonomy comes to have a kind of significance by accepting society's demand for efficiency and effectiveness. And the word university may no longer describe fully this changed structure.¹

¹ Attitudes toward autonomy of universities in Central-East Europe after 1989 differ in certain aspects from those in Western Europe. Towards the end of former regimes and during the political changes, autonomy became the most strongly emphasized watchword of higher education and reached an unrivaled higher level. After the change this exaggerated interpretation and practice of autonomy was reinforced by politically colored attempts, mainly by ministries that wanted to influence and control the life of the institutions (other than the centralized ministry of education in communist days) and by fear of the lack of competence in some politically over-committed government officials. Moreover autonomy could and often did serve to sustain conservative attitudes amongst the professoriate well-entrenched from the pre 1989 period and thus to support resistance in innovation and change in higher education necessitated by the move from command to market economy.

Changes in the European University: From Traditional to Entrepreneurial

Major changes are happening in European universities, associated with changes in the funding arrangements. Success in the market place is supplanting peer group recognition as a criterion of university achievement. Science is being supplanted by technology. This article examines these changes in the light of the historical development of the European university and with particular reference to changes in Swedish universities.

The principles underlying the nineteenth century university, freedom to teach and freedom to learn, guaranteed the university faculty's obligation to engage in research and instruction. These freedoms were the consequence of significant autonomy allowed by the state. At present they are under attack by the persistent questioning of university autonomy by both state and society.

The resulting relationship in which an industrial, commercial society demanding the practical supersedes science research, emphasizing the theoretical, is one in which society takes an active and guiding role. Indeed science is often transformed into technology. Universities, once the autonomous domicile of basic research, adapt to this development by participating in externally determined applied research and technology. The consequent transformation of the university has precipitated a crisis of identity, intensified by this ongoing process of adjustment.

Views differ as to the current identity of the university. One sees universities shifting towards the needs of an information-based society and changes in university methods of management to accommodate the impact of information processing technologies, rather than emphasizing a corporate management model as occurred in the early 1980s. Another view, more widely held, speaks of the evaluative phase, i.e. one in which evaluation and accountability measures dominate. It describes wide-ranging social mobilization to confront the challenge of technological change and organizes structures to consolidate such change, asserting that the pressure for an evaluative state is as significant a reform as pressures for mass

higher education were previously. Moreover the evaluative state may even be thought of as an organizational change, a more sophisticated accommodation to mass higher education.

For example, in a nation like Sweden, emphasis on evaluation results from the growing importance, although at progressively greater costs, of research and higher education in economic and social development. Consequently, quality and efficiency must be guaranteed and audited. Whether the direction is in decentralizing decision-making powers (Sweden) or centralizing (Great Britain), evaluation is seen as necessary for higher education systems.

But these efforts to characterize major changes in universities overlook the more radical effort to raise technology to the status of research and teaching as the triad at the heart of the university, not merely to use informatics as mode and method. Such observers fail to note that the market-driven emphasis on technology can dramatically change the actual form of education and training for the professions, especially those of science. For instance, team research handled cross-disciplinarily and consortially replaces the one-for-one relationship of professor to graduate student with serious consequences for the latter's training.

Further, postulating an evaluative phase requires clarification of whether evaluation is based on scientific quality, thereby strengthening scientific autonomy or, as seems increasingly evident, on user or market evaluation. In the nineteenth century, science was naturally integrated as a cultural element in society. It was an educational and corrective social force. The ideal scientific discipline was thought to be interpretative and humanist, intimately linked with education and hence with enlightenment. But at present this ideal has faded in a science dominated by technology and market forces. Humanist disciplines have lost most of their educational force, and science as a whole has lost in cultural significance as it has gained in economic value and increased in technological application.

Controlled basic research was thought to sustain theoretical and methodological development in various subjects and to be rightfully located in the traditionally independent universities. Historically the shift can be noted in the 1960s when pure research was attacked. It has to be defended for its economic rather than cultural value and to be justified as promoting needed competence.

If the cultural significance of science has been reduced, if Habermas is right in defending the autonomy of science only when it develops self-awareness, and if technology has increasingly taken over as the new form of 'science', the putative equal of research and teaching as the three main functions of the university, can science and culture even be rehabilitated, legitimating, in the traditional sense, universities and science?

The answer seems to be negative as research science has to a large extent submitted to the instrumental demand that it must serve the economy, and the overwhelming appetite of technology appears to ignore social responsibility. The distinction between institutions doing basic and applied research has blurred, even

broken down, raising the question of who decides the factual norms of relevant knowledge. A continuing drift away from the normative knowledge and discipline-based scientific training traditionally seen as the *raison d'être* of the university to the circumstance where the university has adapted to this development by participating in externally controlled applied research has created, to repeat, a crisis in identity. An illustration is the operative recommendation of the Central Committee for Norwegian Research to abolish the distinction between basic and applied research, questioning the relatively free position of the research councils and calling for political control over them.

The particular relation of universities to research/industry expresses their transformation as much as such well-explored issues as university access, relation to the state, and governance. Sweden has exemplified these developments more than most nations in Europe. The evolution of its traditional universities into comprehensive higher education units - *högskola* - encompassed altered attitudes toward research. The research community in Sweden insisted on the right to be represented - if possible by a majority - in the different resource distributing agencies in order to guarantee autonomy and optimal growth in scientific and technological research. In this social democratic society, research and research organization are discussed in bureaucratic terms.

Higher education and research are being integrated in other social and economic activities, for society has begun to intervene more directly and energetically. Research itself is considered one of the most efficient tools in creating the future welfare society.

Establishing integrated 'research institutions' required practical competence more than disciplinary distinction by professors/researchers and ideological compatibility (social democracy) more than superior work. Engaging less in theoretical research unit maintenance and more in deliberately making large concessions to powerful 'sectoral' research organization slowly transformed the research councils into bureaucratic authorities which attempted to minimize the needs of the pure research structures by giving everybody - disciplines, institutions, sub-disciplines and individuals - their 'fair share' of the limited resources.

The changed universities (*högskola*) were intended above all to supply this new research system with qualified manpower. The victory of sectoral research meant that traditional research had more or less accepted political and bureaucratic definitions of what was considered 'socially relevant' research. The opponents of this development believed that continuing 'sectorization' or more precisely 'bureaucratization' has gradually distorted the entire concept of 'social relevance' until it has become identical with the pressing needs of short-term planning and of day-to-day politics.

In consequence the actual 'expertise' in research planning was transferred from representatives of disciplinary competence to bureaucratic specialists. Accordingly, planning and organizing research changed, absorbed into a system that desired

a maximum of 'practical research' in the shortest time possible. This had a rapid and enduring effect on the distribution of funds and other types of resource allocation in traditional academic research. A highly formalized system of choosing between relevant and 'worthy' research products was introduced. The needs and values of politics and bureaucracy became decisive in creating new fields of research. Bureaucratic control and accounting of research grants came to be standard procedure and independent university or högskola administration with bureaucratic rather than academic localities was introduced and made legitimate.

Vocational training superseded research affiliation as the central dimension in Swedish higher education. Sweden's U-68 law had brought a sharply different set of fundamental goals for higher education - ideological schooling, social welfare and regional justice. This devaluation of academic research in general might have led eventually to a lessening belief in what Thorstein Veblen once called 'the professional instinct'. However, economic difficulties in the early 1980s forced a modification which lowered the allocation for sectoral research and increased that for pure research. While government funds for basic research in the universities were being marginally increased at the expense of sectoral research for socially relevant projects, another significant development was occurring. A close relationship between university and industry was developing, resulting in considerable funds being devoted to applied research, that is, research more specifically devoted to economic growth. Thus, the debate began to shift from opposition of pure to sectoral research to contention between basic and applied science, and consequently a closer and more complex transfer between university and industry, driven by the demand for economic progress. The university in Sweden had moved from traditional to comprehensive and was not prepared to be entrepreneurial. A Swedish researcher commented:

"Sweden's higher education system, which used to have a rather negative attitude toward cooperation with industry, can now show an extensive and constantly growing network of contacts with various branches of the business sector.... Among the reasons behind this change of heart are the limited funding available for research at institutions of higher learning and the demand by Swedish industry for advanced researchers to help bring about rapid technological development."

Another has stated: "The pendulum has swung a long way in the other direction from the early 1970s, when there was a fear of cooperation between the higher education system and industry. Now we'll have to make sure to create rules to ensure that the pendulum won't swing too quickly to any new extreme again".

Industrialists have hinted that if the university and college system do not provide for their new technological needs, they might start their own institutions of higher education, as in the United States where, in 1985, eighteen corporations were awarding doctorate degrees. Such a project would soon require a place very near the frontiers of research with a research agenda of its own. This, in the long run, would suggest a total transformation of the Swedish higher education system.

The new structure would replace the already comprehensivized traditional Swedish university. The threat intended to enhance collaboration between industry and existing universities and colleges appears to have succeeded.

This change paralleled a similar movement in Western European countries. University leaders have been cautious over this evolution. The West German Rectors Conference, for example, has several times warned against sacrificing university research to short-sighted rationalization restricting it to goals that are immediately applicable to technological terms. The East Germans, however, following the Soviet Union's reforms in drawing together university research and production centres have announced, in the words of their Secretary of State responsible for university-production cooperation, 266 open-ended and over 2400 fixed term research contracts with the production sector. To meet the demands of this new policy, university curricula are being radically revised. Eight basic lines of study affecting the training of engineers, economists, agriculturalists, mathematicians, medical doctors, lawyers and natural and social scientists with altered programmes and courses have been introduced. Scarce financial resources and a simultaneous rapid increase in student numbers had resulted in heavy claims on the teaching capacity of universities, making it difficult to support the importance of basic research in the universities. Since the ideal for centuries of self-respecting universities has been to integrate teaching and research, this is an authentic problem. Universities have evolved from educating a small minority into socio-political institutions educating a labour force of mass dimensions. During this same period, research has proceeded from the exclusive activity of some gifted individuals into an industry for the systematic production of knowledge and to a new ratio between fundamental and applied research at the universities, created by economic necessity, if not by conceptual progress.

While research has been a fundamental function of the university and only the university can integrate research and teaching, vocational and technological training has often been the domain of separate institutions. However, the present transformation is for these activities to be incorporated in the universities and to become a factor in modifying their time-honoured objectives.

The growing financial dependence of universities on corporations is clear and the consequences continue to alarm university traditionalists. A recent study by Harvard University Center for Health Policy focused on the collaboration between industry and bio-technology faculty members at forty major American universities with these results:

- (1) Faculty members supported in their research by industry were four times more likely to assert that they had been influenced in their choice of topic by possible commercial application of their research than were their colleagues.
- (2) Seventy per cent of these faculty members agreed that university/industry relationships pose the risk of shifting too much emphasis to applied research.

- (3) Faculty members at more than half of the universities in the sample answered 'yes' to 'Have you personally conducted any research at your university, the results of which are property of the sponsor [industry] and cannot be published without their consent?'

In the same cautionary vein, President H. Keith Brodie of Duke University has pointed out that since universities serve the public, there is a tendency for business to view them as being similar to public libraries, filled with free information waiting to be tapped. Business/industry also bring their context and values with them, not recognizing that in universities faculty members are not employees, although they receive compensation for their efforts, and in universities making money is only a secondary reality - a means rather than an end.

Traditionalists have often proclaimed the responsibility of universities to evaluate the effect of advances in technology. Indeed they assert that for universities to judge the consequences of research and technology, humanities and social sciences must be strengthened. The Humboldtian faculty have recognized the danger of being overwhelmed by short range projects in applied sciences and by too much development work which would be better handled outside the universities.

Governments in Europe have, in the past, been allies to universities in respecting academic prerogatives and university autonomy. Industry, on the contrary, having to grasp the immediate implications of change in order to survive, with less deference, demands more of universities. Research institutions are similarly under pressure to develop theoretical into applied research.

The number of graduate students in science and technology had already been reduced in the 1970s because the benefits of modern technology were then being sharply questioned and because changed curricula were overly market-oriented with fewer problem-oriented teachers to cope. Moreover they were not at the frontiers of research and consequently not able to inspire their students to go into research.

In Sweden, for example, a consensus developed that began with the premise that research was an activity performed with specially worked out methods which must continually be scrutinized. It continued with the argument that research is concerned with professional demands that must not be tampered with by a 1960s type of democratization and participation. No country, especially a smaller one, can afford to show strength in all fields of research. To utilize new knowledge rapidly, every nation strives for 'consumer competence' in as many areas as possible. Universities must make difficult decisions with regard to places of strength for further investment and the fields in which it is sufficient to aim only for competence. To perform applied research, the fundamental keys - basic research (hypotheses, ideas, methods) - along with talented scientists have to be available.

New structures like industrial science parks attached to universities were suggested to alleviate difficulties by shortening the time lag between discoveries and industrial application, solving the problem of necessary confidentiality of scientific results since a research organization within the confines of a university must be open. Moreover the parks, it was hoped, would create respect for basic research and prevent industry in the interests of applied and technological activity from absorbing seed money for university research.

It must be remembered that in many research areas all that is possible is to maintain and to survey present knowledge, when pushing to the boundaries of knowledge or engaging in sufficient 'pure' research to produce adequate bedrock for technical and applied utilization is the desired objective.

The difficulties of industry/university collaboration lie in concretely handling basic science in an industrial environment, the growing complexity of industrial research and development, the slowness of response of industry to certain types of technical change, the obstacles in linking academic technology to the specific needs of industry, the slowness of science transfer through education, and the issue of the low level of research and development in many small and medium sized firms (see Rikard Stankiewicz's pioneering work, *Academics and Entrepreneurs*, 1986).

Specific problems between university and industry are: conflicts regarding research priorities; conflicts with respect to the allocation of personal and material resources; social conflicts which are the result of incommensurability of value scales; conflicts over the disciplinary nature of academic research; conflicts concerning free communication and secrecy; conflicts over property rights; and conflicts which are the product of the organizational incompatibility of universities and industry.

The motives for industry to seek university cooperation are self-evident: to solve pressing technical problems; gain access to facilities and personnel for utilization and recruitment; have a window on the research front; and increase the scope of the firm's own research and development. The reasons for universities looking for industry collaboration are also visible: to acquire funds for complex instrumentation: for furthering pure research; for supplementing research/professional income; and to increase placement opportunities for their graduates.

Stankiewicz has in mind a new structure which he thinks will lead to effective collaboration. He finds that conflicts have always been present in the university - between disciplines, new versus old, humanistic versus natural science, and specialists versus the generalist ideal of knowledge and education. Moreover there has been tension between the philosophic-scientific and vocational-technological orientation of universities. He cites conflicts between teaching and research for the last one hundred years, rivalry between undergraduate and graduate education and finally even refers to the polar concepts of the university as the servant and as the critic of established society. All of this is part of an effort to legitimize and place

in perspective the conflict between industry and university as one of two different worlds and systems of values.

More serious, though, is Stankiêwicz's proposed change of the present state of affairs by creating intermediate peripheral institutions to help would-be entrepreneurs and to promote entrepreneurial culture within the university environment (Enterprise Forum at MIT and Electronics Group at University of Lund) - a far cry from the traditional university! He would employ the strategy of producing high technology universities by establishing this new technological identity for those universities created in the 1960s and 1970s to meet the expansion in student numbers or by founding brand new ones like the Technical University of Compiègne.

But Stankiêwicz's vision is based on the shaky premise that technology can or should be raised to the level of teaching and research in the university, transforming the university. His comparison is to the kind of cultural-organizational change in the nineteenth century when the university unwillingly embraced science. However, technology is the consequence of science, not its equal in scope, method or weight. Moreover the university, Humboldtian or even pre-Humboldtian, cannot accept this new concept of university in which technology generation and transfer are viewed as central, or peripheral, functions. Indeed if such were to be, there would be no point to calling the new structure a university.

Yet the mere proposal reveals the enormous pressure on the university as we have known it and the ahistorical, aphilsophical market-oriented, economically profitable technology strategy in full sail. The institution, the university, that Clark Kerr says has endured for more than 900 years, may well be heading toward a transformation so radical as to become a qualitatively different structure. While the point can be made that the heterogeneity and adaptability of the academic system have enabled the changes, raising technology into a triumvirate with research and teaching, given qualitative and value-laden differences, is beyond cooperation, not valid within the historical definition of the university.

The extreme of the case has been set forth by Professor John Ashworth, Vice-Chancellor of the University of Salford and more recently the head of the London School of Economics who employs the phrase 'ventures and enterprises' in place of traditional research and development and lauds his university's objective of 'dismantling our Ivory Tower'.

For these proponents the issue is not one of faculty loyalty to a discipline, based on pure research, or to an institution but is simply a matter of improving effective management to cement collaboration between university and industry.

To continue with the Salford objective, Ashworth would wish to transcend the distinction between education and training by assigning institutional (university) ethos to the care of industry and business. Salford University has created a 'shadow university administration', consisting of a commission with equal numbers of faculty and industry representatives, to decide its research policy and to

create management structures within the university more suitable to industry-university collaboration.

Indeed it considers department chairs to be 'key line managers'. Salford's policy is to replace departments with multi-discipline centers as research loci and even to provide a new kind of graduate training in applied industrial skills.

Questions persist. How can universities contribute to the transfer of technology from the laboratory into production process? Has there been too much emphasis placed on the transfer of products as opposed to knowledge? Is there a new role for the arts and social science through their contribution to the modification of social, cultural and regional knowledge? What is the responsibility of the university in relation to training for specific jobs?

Salford University Senate answered by declaring that the University must seek to serve the best interests of industry, commerce and the public as well as of its students, asserting a parity of esteem among teaching, research and technology skill transfer.

Yet this closer relationship with industry in research and development in university training increasingly interferes with broad training in methodology and the intra-disciplinary motivated choice of theme for dissertation work. The initial problem for graduate education had been created by a decreased, more heterogeneous applicant pool, substantial reduction in federally sponsored graduate training programmes, increasingly obsolete scientific equipment, and inadequate research facilities as against increased aggregate cost of graduate study. Had then the problem of graduate education shifted from adequate financing to appropriate training?

Significant also is the impact of the new relationship of freedom of inquiry and timely communication, i.e. publication of scientific findings to protect industry's need to ascertain the potential patentability of technical developments (patent process; financial responsibility for potential patenting processes; definitions of property ownership and royalties distribution; exclusive license of patents resulting from industry-sponsored research and graduate training partnership; collaborative (shared) research time and research; and information transfer between participating institutions).

Can contemporary graduate training and research programmes (such as biotechnology) be incorporated within a steady state graduate operation without curricular and resource adjustments that decrease the quality of other essential graduate training programmes? Can these new programmes maintain the balance of responsibility of faculty for teaching and research as well as for institutional services? The tentative answers are that faculty participating in industry-sponsored research have been their efforts in the instructional area reduced, and the quality of graduate mentorship has declined.

The imposition of highly specific industry-sponsored research programmes necessarily affects a university structure characterized by more expensive less

specialized approaches to graduate training and research. Industry-sponsored research often necessitates linkage between otherwise independent scholars/professors, creating difficulty for graduate students whose relationship is likely to have been that of single mentor to graduate student.

While free inquiry and open exchange of information and generic research materials are vital to the professional interests of faculty, they are also important for the scholar/researcher in training graduate students and post-doctoral fellows who have to be allowed to engage in essentially unlimited exploration of basic questions. In addition the opportunity to submit findings to the peer-review publication process needs to be preserved, the proprietary nature of the industry-sponsored research notwithstanding.

Therefore, the traditional precepts and objectives of graduate training may make the highly selective and focused industry-sponsored research contracts undesirable. Rather might there be broadly based industrial support of fundamental or theoretical research - rarely to be found.

It is more significant to note with historians of higher education that Humboldt's idea of a university rested on a strict division of responsibility between state and university, the former being responsible for framing conditions within which the university should operate, the latter fulfilling these conditions through its own self-government. Traditional legitimation of autonomy for the university has been eroding, and universities are now trying to justify their position as autonomous bodies by making a recognizable contribution to solving man's most pressing economic, if not social or political problems.

In linking the function and purpose of higher education firmly with economic performance, governments clearly favour vocationally oriented courses in engineering, technology and related fields at the expense of the humanities: education for pleasure and general culture and the financing of scholarship and research as an end in itself are not considered affordable unless the economic performance of the country improves - a policy that imperils the university's much cherished freedom to engage in pure research both in the arts and sciences.

Yet, the greatest strength of the university has been in its balance of the arts, social sciences and natural sciences. Technology has not to date achieved the status of these three congeries, nor has it gained the more exalted state of equality with teaching and research. The pressures are not from within, the realm of truth-seeking and conceptual knowledge acquired, but from without, market-driven, economically derived and societally influenced.

The 1970s conceded that while teaching and research have always been the essence of university life, the content of these functions had changed considerably. But in that decade the factor of change seemed urgent and consisted of important social needs and problems, not as today, when economic needs and problems dominate. Where in the 1970s adaptation was to be developed within the institutions themselves, the present emphasis on technology and industry has created

hybrid university/industry structures or new institutions produced outside the universities by industry/university consortia. These changes will be likely to alter permanently the university and its traditional functions and values.

There is, of course, no return possible to the Humboldtian university of the nineteenth century. And even the conservative professoriate have grudgingly accepted the widened access to students and broadening of curricula that denominate the comprehensive university. And obviously the university as a long-lived institution has survived by constantly adjusting to changing social and political needs. Yet the present rapid and radical move to a university adaptive in a major fashion to economic development, to an entrepreneurial university, would appear to go beyond modification to a sufficiently changed structure that no longer for many institutions fits the time-honored definition of a university.

One can bow to the precept that economy of thought characterizes permanent change, i.e. one must adhere in the new as closely as possible to the old it replaces. Thus the new structure will retain the noun 'university' resorting euphemistically to adjectives to describe the change: business-like university, corporate university, adaptive university, enterprise university or entrepreneurial university. A prediction, however, can be made that numerous institutions will drop altogether or never use meaningfully the word university to describe what they do.

Peter Scott is close to the mark when he writes that the major relationship that has grown between university and industry developed because „the different branches of knowledge find it increasingly difficult to regard modern university as in any sense or organic, academic society rather than simply a shared bureaucratic environment, a common material framework of buildings, jobs, careers and equipment which can be exploited for a variety of more or less cognitive activities that have little in common with each other“ (1984).

Nevertheless he has described this crisis of the university in the manner previous generational crises, whereas the conclusion of this analysis is that the qualitative change is so radical that the very identity of the university and the justification for even using the term itself maybe called into question.

Changing Relations Between University and State: Sweden and U.S.A.

A Comparison¹

Sweden

The initial intent of the decisive 1968 reform was to address the faults in efficiency and rationality of higher education planning and protest in general, including such details as inadequate tutoring. In graduate work, to take one major issue, U.68 was to confront the matter of the sparse number of dissertations completed within a stated period of time and what was considered the excessive formal pattern in developing dissertations.

The reform initiative taken by the state operated with the promise that the post-graduate student was to be socialized into a particular set of values, norms and beliefs as to what constitutes science, forms the research process, and shapes the researcher. And these particular values, norms and beliefs were to remain unchanged through a working life. Indeed it was anticipated that this „professionalization“ of post-graduate education was to have a lasting effect.

This move, as was to expected, challenged a powerful and mainly conservative professoriate. It called for larger participation in tutoring and post-graduate teaching by dosenter (a rank below professor) and a switch from hierarchy toward a more democratic organization.

The old system was seen as exclusively fostering „pure“ research instead of training persons who could serve society at large. Society needed, it was though, qualified and highly educated professionals who could work outside universities in industry and in public and private administration. Efficiency and relevance had to be considered in post graduate education. Priority would be assigned to society's

¹ Conference paper prepared for the O.E.C.D.-I.M.H.E. Conference (Paris) September, 1994.

need for highly educated labor ahead of a research career. The move would be from „research orientation“ to „society orientation“ with consequent values promoted in the process. Training had resulted in emphasizing researchers as a profession rather than researchers as professional which society presently needed.

Rational, central planning gave cause for optimism about the change. The cultural sciences were to be organized along the lines already existing in the natural sciences. Socialization of graduate students would now aim toward professionalizing research.

In the transformation of higher education brought about by the central planning of the state, dissertations were to show familiarity with theoretical and empirical changes as well as in demonstrating existing methodological skills and concepts (not original and creative as were supposed for the traditional Ph.D.). The new objective also clashed with the exclusive right of the individual student to choose and formulate his own research topics. It had always been assumed that the choice of topic itself was an indication of creative ability.

Independent selection of the topic and its intrinsic motivation in the creativity knowledge process were opposed to the collective process favored by the state in post 1968.

Problems arose. The effect on research investigations seemed to be deleterious when only four years were to be considered the maximum time for graduate work. The strong emphasis on instruction appeared to constitute a danger for intellectually original students. Two kinds of researchers were required - those who were able to carry out „mandated“ research and those who pose problems and develop new methods. Profound and difficult research problems were likely to be avoided in the new dispensation.

Nevertheless, post-graduate education as professionally organized training, was adopted. The state's effort clearly was to turn research into more of an ordinary profession striving to create a corps of legitimized researchers, sharing the same core of knowledge, primarily on the methodological level.

Occupations assuming professional status customarily claim specialized knowledge and the right to self-government on the basis of unique competence. Swedish society, often characterized as having far-reaching aims of equality and consequently fearing deviation and elitism, generally supported the post-1968 change.

By 1981 the climate had altered sufficiently that the creative dimensions of graduate education were again thought to be central and the unique character of research emphasized. The power struggle seemed to favor the creative over the professional values but a closer look showed some success for central planning in that post-graduate education had undergone a professionalization process. Training continued to stress methodology. Research appeared to be regarded as much more of an „ordinary“ qualified profession which it was possible to master through advanced studies in methodological and subject-oriented courses.

Yet in the independence of graduate students was maintained in the cultural sciences in opposition to the subordination expected in the professional process. Students came to view dissertation work as ordinary activity. But methodological competence was considered the most important element in post-graduate education. Writing a thesis was part of a training process, still the choice of dissertation subject was a personal right and responsibility. This tension between independence and professionalization continued to exist and influence creativity.

Indeed this development in post-graduate education was mirrored in other key issues such as access, relations with industry, curriculum and programs. What was common in these matters, whether determined centrally or ultimately in devolved regional boards, was control by the state. The state initiative took different forms.

Three periods of government control of higher education with coordinated forms of internal management have been identified: before 1977, government control was exercised through rules and regulations with collegial management; after 1977, government managed to its objectives through democratic representation within corporate structures; and after 1992, government operated through evaluation and management by a combination of collegial bodies and hierarchical corporate authorities, influenced by market forces.

A similar process of government control can be detected in the development of professions, which in Sweden came from above, i.e. the state. This pattern of development, however, differed from American professionalization in that its impetus did not come from a functional or occupational group striving for autonomy but from the state which did permit a role in decision to other social entities.

Recently, the model of professionalization from above has been slightly modified by looser market control and more autonomy for professions. However, education and examinations remain in the hands of the state and every downturn in the market for services has brought a call for state intervention

U.S.A.

Analysis of American higher education and the state must take into account the uniqueness of its federal-state structure. To be sure, the federalist features of the Federal Republic of Germany, Australia and Canada can be compared. But U.S.A. remains the model.

Important decisions in higher education during the last two decades can be more often attributed to the authority of the individual fifty states but federal intervention is consequential. Among such key decisions and their source of authority are:

1. Widening access particularly through expansion of community colleges (state, especially California).
2. Financing basic science research in the leading universities (mainly federal).

3. Student aid programs (federal).
4. Diversifying post-secondary institutions (state).
5. Elaborating systems of higher education (state).
6. Shifting of teachers colleges to comprehensive institutions (state).
7. Subsequently transforming those state comprehensive colleges into public state doctoral-granting universities (mainly from federal money).
8. Strengthening university ties to industry (state and regional economic development).

The federal role is often discerned in broad gauge-policy such as overcoming barriers to equal educational opportunity, ensuring that manpower needs are met, supporting innovation in improvement in tertiary education and disseminating results of research and practical demonstrations. Such policy guidance differs from direct state intervention as in Sweden. Recently, however, increase in federal influence has been seen in clashes between universities and federal agencies in the U.S. over management and accounting procedures with respect to grants and contracts and increasing federal regulation of actual content of research such as genetic engineering and research on human subjects.

But these activities are general as compared to the specific state intervention in Sweden. There the state was able to structure and regulate by its control or influence over formal decision-making organizations, the rules of qualification and competence attached to certain positions, control of resource allocations, size of study programs and entry figures, admission regulations, specifications for study programs and awarding of degrees.

In the U.S.A. on the other hand as Burton Clark has noted the preeminence of America's 100 research universities did not come through national planning or other forms of unified overt direction but rather was the result of large size, extreme decentralization of control, extensive university diversity, sharp institutional competition and substantial institutional hierarchy. The central feature was decentralized control in that the major private universities were under individual, self-perpetuating governing boards and the numerous public universities were directed by 50 different controlling boards (one for each state).

Compared to other national systems, the U.S. is an open system in which competitive disorder and a market-like status hierarchy condition the ways in which institutions define themselves, seek external resources, and internal arrangements for research, teaching and learning. The decentralized, diversified and competitive system encourages initiative and an entrepreneurial spirit in individual universities. Moreover, competitive universities whether public or private, actively seek meaningful autonomy. They press for freedom from the control of the state, church or professional associations.

The localization of responsibility strengthens the search for autonomy. Another insurance for institutional autonomy is to have not one major source of financing, the ministry in a unified system, but many sources. Thus, both public and private institutions could extend and diversify their portfolio of revenue services.

The competitive university of necessity was unusually receptive to self-elaboration and enlargement. In contrast to the lack of such courses in most European universities, having a distinct graduate level of courses and credits in the basic disciplines was a decided benefit. Professional school structures were increasingly lodged at post-bachelor's level and the intense professional preparation was separated from the undergraduate years. Consequently, a tripartite structure (undergraduate, graduate and professional) was created.

Secularizing faculty, institutionalizing academic research and organizing academic specialities intensified the driving force of competition. With no central supervision, faculty growth and diversification interacted with the variety of financial resources and gave some institutions a competitive edge.

Organized research units and interdisciplinary programs increased in number because of the research imperative and the research-driven complexity of the continuing differentiation of basic units - departments or congeries of cognate disciplines.

Authority was also differentiated, encompassing broad, centralized guidance and operational control devolved to professional schools, sub-colleges, departments and inter-disciplinary research units.

However, federally funded grants and contracts remain a major part of the budgets of all the leading American universities and the overhead or indirect cost reimbursement goes for allocation to the administration, not to the researcher. These federal grant universities (so named by Clark Kerr) support mandated science as opposed to disciplinary science.

Still centralized peer review, occasionally called the invisible government of the disciplines, has prevailed. The three-fold structure of university authority - administrative hierarchy, faculty senates or councils and disciplines (which govern research imperatives in peer review) - currently dominates. In certain matters another division of authority and responsibility among trustees, campus-level administrators and faculty obtains. The two-tiered system of undergraduate college and graduate school has as its primary base the department or unity of cognate discipline whose flexibility contrasts sharply with the European chair system. Yet another instance of a powerful form of cross-institutional grouping in American higher education is the aforementioned professional or learning society.

The greater internal density within a university lessens the authority of the staff, for its professional schools operate like major, semi-independent businesses. The consequence has been that differentiation and multiplication of basic units changed the character of universities.

And the greater density of universities is shown by the co-existence of research universities and doctoral-granting or comprehensive universities which become semi-research universities. The types of universities with a graduate program and research proclivity range from the rich and famous to the scarcely adequate and insures increased competition for research support and institutional status.

The greater complexity of contemporary American systems of higher education may bring less „top down“ control but the steering mechanism whether in indirect or direct form remains centralized to a degree. On the whole, however, decentralization, diversification, competition, entrepreneurial energy, and greater professional peer control characterize the system and seemingly better serve the university enterprise than do centralization and state control, thus accounting for the motors of change and the mechanisms of continuity in the U.S. system.

The bureaucracy of state control of universities is for the most part avoided when both strategic and operational decision-making are decentralized to the point where responsibility for institutional advancement is largely localized.

In comparing Sweden and U.S.A., it may be concluded that even when Sweden moved from traditional to professional and societal oriented university and back again to modified traditional, professional structure, that state dictated the change, but it can also be argued that the supposed mistake of excessive emphasis on societal needs was a product of overwhelming state control planning which had scarce regard for input from non-staff or non-bureaucratic sources.

In the U.S.A. the competitive, dominant university system with its rich research, graduate education accomplishments has in effect strengthened its influence and authority, the further removed it has become from state control. The present and continuing decrease in state and federal funding will force even greater competition for non-government non-state funds. Yet the major research universities will remain a significant element of the budget. But there is not the dominant force the state in Sweden still possesses in higher education. It must be noted, however, that some observers contend that current Swedish developments are not simply a question of state regulation but rather represent a radical shift in the value system underlying educational policy.

6

Recent Trends in American Higher Education¹

In this essay I review recent trends in American higher education some of which reveal adaptive strategies in response to societal needs. Enrollment of Blacks is on the rise. Continuing education is growing steadily. There is a progressive blurring of the distinction between public and private higher education. Universities are becoming more involved in the education of teachers. Evaluation and accountability are high priorities on the agenda as are relations with the socio-economic environment. Finally, I point to a process of bureaucratization in universities and progressive changes in the role of the university president.

An essay on trends in contemporary higher education systems must note the „twin imperatives of meeting growing individual demand for education while having to remold its educational systems in the light of economic, industrial and social change“ (Neave, 1985, p. 10). The „complex ambiguous and confusing case“ (Clark, 1985a, p.5) of America involves an enormous variety of structures and practices in the 50 decentralized United States. Despite the complexity and diversity, some general patterns can be discerned which we shall call trends or directions or tendencies. It is important to deal with these patterns because the educational systems through much of American history have been the focus of public attention, particularly the concerns for equity and for excellence between which public pressure has vacillated over time and which, as objectives for higher education, have competed sharply for resources and priority on the national agenda.

The best case scenario asserts that the American system of higher education rates high in access; its research universities are 20th century pace-setters with great depth and breadth of productive activity in most fields. It concludes that the extensive array of colleges and universities seems capable of doing many things on many fronts reasonably well (Clark, 1985b). The many higher education institutions are greatly differentiated: most of them draw students out of a variety of

¹ Revised April, 1998.

backgrounds and they create individual mixtures of programs and customers. Private institutions compete sharply with one another as well as with public colleges and universities; public ones compete among themselves, thus creating an abundance of student choice. Nevertheless trends are tangible and this account touches on the most prominent or visible.

Trends suggest a continuation in force of changes initiated in the past. American higher education is no exception to this axiom. Public and private institutions constitute the higher education system in the United States. While more than half of the institutions are private, they have only 20% of the students, a decline from 40% in the last 20 years. About 1700 of the 3400 colleges and universities are supported primarily by tax funds and thus are called public. However private institutions receive public research money. Many states provide direct subsidies to private institutions - New York, for example, gives money for each degree awarded by a private university and Maryland furnishes some of the annual public higher education budget, regardless of size, to private colleges and universities. This income, several million dollars in the case of large private universities, is provided without any conditions as to its expenditure.

Public universities receive research grants from private industry, nonprofit foundations, and other units of the private sector. They get about 30% of all voluntary support for colleges, twice the percentage they obtained 30 years ago. Students at both private and public universities are eligible for public loans and grants. Although average costs to students at private institutions are more than four times those at public ones, students have, directly and indirectly, public support at the same time as they enjoy the benefits of a private education; thus the acceleration of these developments has enlarged the blurring of the distinction between public and private higher education.

School and University

A problem coming to the fore is the relationship between the school and the university, which is complex and even adversarial: The American education system is decentralized with nearly 16,000 local school districts. The connections between higher and lower education vary from the public to the private sector, from one state to another, within states from one school district to another, and nationally from one type of college to another (Clark, 1985b).

A recent dramatic illustration is the virtual take-over by Boston University of the Chelsea, Massachusetts, school system on a contract basis in which the university will have authority with respect to appointment, budget and curricula, all with the intent to rescue a system in chaos, unable to fulfill its teaching effectively. However, Boston University is private and expects from its contract the customary opportunities to supply consultants, teachers, counselors and researchers on salaries paid by the school district.

The massive and diverse nature of American higher education requires statistical information as background for comprehending what is happening in the system. In the last decade the multiplying of the number of higher education units was often the result of newly established two-year colleges (at least 60% of the increase). The National Center for Educational Statistics reported 13.5 million students in higher education for 1989, fueled by an 11% jump in students aged 25 or older. This was a 3.4% rise of 440,000 over the 1988 figure, the sharpest rise since 1980 (Digest, 1989).

There were 1.87 million post-secondary degrees awarded in 1989: an all-time high, with most of them earned by female students. Over one million Bachelor's degrees were granted in 1989, but the highest increase was in Master's degrees, up 3%. While the peak of the „baby boom“ enrollment has passed, a higher proportion of the smaller number of high school graduates have opted for university enrollment. But 1990 has shown a steep decline in applications for admission, a 5% to 10% drop. Consequently there will be a smaller pool for colleges to choose from, and females constitute the largest part of the pool. In fact, female student numbers are up 14% from 1981 compared to male students, up 3% (Digest, 1989).

Nevertheless the ranking evaluation will likely hold that 10% of the colleges will remain competitive, i.e., the best students compete to attend and the colleges compete for the most qualified; 56% are selective, i.e., institutions that do not admit all of their applicants and 34% have open admission policies.

Moreover close to 50% of high school graduates entered college the year after graduation compared to 33% for 1960. Indeed more than 60% of recent high school graduates took courses in college. The figures also show improvement regarding enrollment of Blacks, from 18% of Black high school graduates in 1960 to nearly 30% in 1988-89, a figure, however, that has not improved for 1990. Whites in the same period went from 24% enrolled to more than 32% (Digest, 1989).

It is clear that higher education in the United States faces a greater volume of tasks as it incorporates more people, connects to more occupations, affects more life chances, and seeks to structure itself around more and more rapidly changing bodies of knowledge. The expanding load of obligated work leads to persistent problems of how to modify structures and alter procedures in order to do effectively all that has to be done.

Teacher Education

A significant trend is the immediate consideration of the training of school teachers. Long neglectful of teacher education, leading universities have begun to look for ways to improve a disastrous school system. The higher the status of the university the less its involvement in teacher preparation has been. Mainly, the state colleges trained teachers. However mounting public and government concern

about a failed school system led to the most prominent universities to organize, study, and make recommendations (Holmes, 1986). They emphasize content more than method, develop more involvement with teacher internship than in the customary practice teaching assistant apprenticeship process, and concentrate on graduate training and professionalizing of the teacher.

Trends toward complexity ordinarily suggest a maturing and professional sophistication of a system, but current trends in higher education are more easily detected because of the availability of richly detailed statistics; however the end result is not necessarily a system that more subtly and more decisively meets social needs. Higher education often appears simply to borrow the language and structure of another value system - the corporate world - rather than assimilate and shape external institutions to its inner objectives.

A by-product of wide-spread publication of books and articles of successful and out-moded corporation presidents has been several recent studies which endeavor to gather and interpret statistics regarding the role of university and college presidents.

Role of University President

In responding to a questionnaire item requesting predictions as to the role of university presidents in the year 2000, most heads emphasized the increased importance of fundraising, the proliferation of ceremonial functions, and the growing significance of management skills especially at the second level of line administrators. Nonacademic matters, including political activities for public institutions will, they prophesied, occupy an even larger percentage of presidential time.

Such major community-related problems as AIDS, drug addiction, crime escalation, and homelessness will demand the attention of the university. Several presidents foresee more decisions coming at the system level, consequently changing the role of the individual university or college head within the system to one akin to a British Vice-Chancellor or European Rector. This phenomenon has already been remarked in the four largest university systems in United States - California State University and College, State University of New York, City University of New York, and the University of California.

Presidents will be more heavily involved in building connections with the federal and state governments and the private sector. Replacement faculty for the many retirements that will come in the last decade of the century will be high on the year 2000 agenda. Setting high standards for the university will be a responsibility of presidents that has high priority in a period when larger faculty and trustee involvement is also predicted. Access for minorities and substantial, costly, athletic activities will continue to be debated issues. A number of respondents refer to the privatization of public sector higher education viz. closer relations of university to economic development.

Pressures for action and change will shorten terms of office of university presidents since they will be required to show major societal leadership. The next millennium will commence with university presidents who will be managers more than academic and managerial styles will depend on technology. President as catalyst is a favorite notion, as is president as leader in demanding accountability measures for faculty. The ideal year 2000 president will be both academic leader and efficient administrator and he or she will have to face increased centralization and bureaucratization (Wasser, 1990).

Professional Associations

Increasing attention is being paid to the function of professional associations on the American higher education scene. A 1982 Carnegie report states that there are about 50 professional organizations accrediting American colleges and universities, with many of them very successful in having their recommendations of changes and additions to curricula implemented. These associations, classified as voluntary nonprofit agencies, are able to define the requirements for admission, general and particular, to higher education institutions. They are governed by boards elected by the membership usually on the recommendations of a nominating committee. Numbering in the hundreds, more than 250 belong to the umbrella organization of universities and colleges, the American Council on Education (Atwell, 1989).

Those with greatest strength are associations representing college and university presidents - six in particular. The exclusive Association of American Universities whose membership, by invitation, includes 62 leading major research universities is one. The five others are the American Association of State Colleges and Universities (more than 375 members), the National Association of State Universities and Land-grant Colleges (150 members), the American Association of Community and Senior Colleges (1250 members), the National Association of Independent (Private) Colleges and Universities (850 members), and American Council on Education with 1500 institutional and 250 association members.

There are two major associations for governing boards, the last and most powerful link in the chain of decision making in universities, the Association of Governing Boards of Colleges and Universities and the Association of Community College Trustees.

Campus administrative units have organizations for Business Officers, Law School, Medical Colleges, Personnel, Financial Aid Officers, Foreign Student Advisers, Continuing Education, Teacher Education, Graduate Schools, Physical Plant Administrators, and others. Principal representatives for faculty are the American Association of University Professors and the American Federation of Teachers. Individual - as different from institutional - membership associations include the American Association for Higher Education and the American Asso-

ciation of University Administrators. Testing agencies are also key actors in the American higher education arena. They bear the names of American College Testing, Educational Testing Service, College Entrance Examination Board, and the National Association of College Admission counselors.

And, of course, there are hundreds of disciplinary associations such as American Chemical Society, American Physics Society, Modern Language Association, American Historical Association, International Studies Association, and others (Atwell, 1989). The reason for citing these groups is that directions for higher education may be seen in their activity since what is increasingly required of these associations by their members are policy analysis, professional development and training, publications, public policy advocacy, and other services. Disciplinary organizations influence curriculum and program content in the universities and colleges, even obliging them to make significant changes.

At the national level professional associations dealing with public policy discuss student financial aid since the federal government plays the dominant role regarding money. Issues here pertain to public versus private colleges and universities and those additional 3000 proprietary institutions engaged in short-term, for profit vocational training.

The second subject which is increasingly important to higher education is federal support of research. Debates center on the extent to which federal research and development dollars are used for applied military research as opposed to pure research. Others question the degree to which national priorities such as AIDS, or cancer research, or energy renewal, or environment depletion squeeze out on going basic research. Again, how many federal dollars go to major national research universities as contracts compared to the sum going to aspiring or small predominantly teaching institutions? Or, to what magnitude should the federal government support the total cost of research, both direct and indirect? The multiplying and already huge cost of resources and equipment for research results in persistent urgency for the government to oblige.

The third principal topic is taxes. Historically the federal tax code has presented incentives for private giving to higher education by allowing deductions from taxable incomes. Recent years have seen governments eliminate or compromise these deductions, especially in the 1986 Tax Reform Act.

It is credible to account for flourishing professional associations of higher education by referring to the weakness of the federal cabinet position of Secretary for Education, only 18 years old, contrasting with the powerful ministries of education in Europe. And the strongest of these are the professional organizations representing „management“ or the administrators of colleges and universities where, unlike their European counterparts, associations representing faculty and students are, like cabinet secretary, also weak. This situation contrasts with the school systems in which the two unions - National Education Association and American Federation of Teachers - are far more potent and better financed than those fed-

erations representing school administrators or school governing boards (Atwell, 1989).

Needs of Society and Accountability

As in other national systems of higher education, a primary demand of society on the university is to be responsive to the needs of society and accountable to it for performance. Since society requires more accountability, the classical model of the university - present only in the oldest American universities - as a self-regulating institution responsive to external influences primarily on its own intellectual and moral premises, has by now been almost completely transformed into that of a dependent institution in which the nature of the funding influences the range of activities.

The requirement for accountability has carried with it the trend toward more professionalism in administration and the introduction of modern managerial techniques with the university head assuming a more executive role than did previous academic leaders. The far greater demand by society for services from the university as well as for better quality in graduates - essential in a very competitive job market - is behind many current trends as is the necessity for more entrepreneurial activity and wider accountability in terms of academic relevance.

Structurally, changes have been favoring a stronger university president, weaker facilities or schools, and stronger departments, i.e., power and authority have flowed upward to president and chancellor and/or governing boards and downward to departments whose chairs appear to have more „straw-boss,“ foreman, supervisory authority with the sizeable loss of force and influence being suffered by deans and faculties. Subsequently there has been a proliferation of titles and positions of vice-presidents, associate and assistant; provosts, associate and assistant; vice-chancellors, associate and assistant - all clustered around the dominant president or chancellor. The department chair then supervises the activity of his department members with little or no input at the higher level of decision-making. There has thus been a loss of identity as faculty or school which had been the best vehicle for adherence and loyalty of faculty. Hence individual professorial status and identity exists primarily within the discipline on a regional, national, and international basis and as employee within the smallest structural unit, the department.

Justification for the new managerial head of the university has come from the fact that universities are complex organizations with hospitals, techno parks, computer centers etc., in addition to students, teachers, administrative staff, laboratories, classrooms, dormitories, and dining halls, all of which require managerial skills.

Trends are difficult to discern. Certainly the tendency or general direction may be noted, even supported by a statistical process, but in higher education descrip-

tion of trends is generally impressionistic. One comprehensive outline of the current general condition of higher education lists increased competition between institutions, growth of external uncertainty, greater selectivity in allocation of public moneys, more political „guidance“ directed towards universities, shifting of markets toward science and technology, more continuing and professional education, greater access for disadvantaged groups, reduction in university influence on methods of assessment in secondary schools, erosion of the boundary lines of university program concentrations, and more emphasis on adhering to common standards through demands for more efficiency, more value for money, and public accountability. It goes on to declare that considerable consensus exists that the future will stress external validation of university curricula and awards, national employment of university staff in order to achieve rationalization through staff mobility, shutting down some universities and ranking between others, transformation of basic core curriculum into distance learning to reduce the labor intensity of university teaching, widening penetration of government into „the private life of higher education“ (Martin Trow's phrase), and the spread of an evaluative state with reward and sanction mechanisms.

This last, the evaluative state, probably more advanced in the United States than elsewhere, is seen as one in which assessment and accountability measures dominate; it prescribes far-ranging social mobilization to confront the challenge of technological change and creates structures to consolidate such change. The movement into the evaluative phase may have been an inevitable response to American mass higher education, but more likely it is the outcome of the progressively greater cost of research and higher education in economic and social development. The university world has been introduced into the universe of commercial competition.

Continuing Education

Clark Kerr has written that this critical age for universities has two phases - the first was to offer more opportunity to society for education, followed by a second which stressed competence. Certainly any effort to articulate trends in higher education will notice that access/opportunity have been in process while competence may increasingly underscore more recent tendencies and general directions for American higher education (Kerr, 1982). A further stage is the awareness of the necessity to retain and to update professionals either by specialized Master's degree courses - the largest growth in enrollment has occurred in Master's degree programs in recent years - or by a variety of specially designed courses of a few weeks' duration. Members of the professions are becoming more alert to the necessity for such updating throughout a career and have influenced higher education institutions to establish classes incorporating vocational material into specialized degrees and to augment cooperative programs in which the student works

in business or industry as part of his or her schedule of study, or serves internships in government or schools. One problem that has arisen in that vocational or para-professional, or even professional, concentration has meant adding material to an already crowded syllabus.

Since changes in patterns of employment together with technological advances will necessitate greater flexibility in the working life of adults in the future, people will have to retain and re-equip themselves. Moreover, technology is likely to change every few years. Accordingly, professions are beginning to require continuous updating courses throughout the professional lives of their members, even debating the issue of a minimum level of professional updating in order to maintain competence to practice. So, a visible trend in the activities of higher education institutions is seen in continuing education, usually regarded as education leading to the award of a degree. The courses are offered in a diversity of forms, from one year diploma or certificate available on a full-time or part-time basis to short intensive courses of a week or more duration. These are often designed in conjunction with the relevant profession or industry. Vocational subjects in the management area have expanded largely whereas those in science have had a reduction.

Behind this activity lies sensitivity in higher education to a major demographic change in the number of 18-year-olds - a sharp reduction - and a resulting shortage of generally qualified manpower leading to more student demand for specialized skills and programs. In addition, employers will have to make better use of the existing work force and hence enlarge the demand for all kinds of mid-career updating, video communication, and more vocational elements in higher education courses. Therefore it is evident that universities will continue to play a substantially larger role in vocational education in an expanding range of professions.

University and Industry

Especially noteworthy is the mushrooming complex relationship between university and industry. While corporations recognize their need to involve themselves in higher education, they claim to have no interest in usurping academic judgments and decisions although wishing to contribute to them at many levels. Many faculty members question this forbearance especially when they hear industrial council declarations of the necessity for a formal place at the table where strategic choices are made about higher education priorities including research and allocation of limited resources to achieve them - at federal, state and local levels. Indeed industry stresses the necessity of its connections with universities in cooperative, collaborative, advisory, or voting capacities as suit local circumstances.

The consequence of more interaction with universities is industry's strong recommendation that higher education courses be rebalanced towards mathematics, science and technology, and professional retaining. Moreover many businesses and industrial companies have been candid in asserting that in a present, an more

so in a future, condition in which customers of higher education, both individual and industries, contribute importantly to its cost, they should have significant influence on policy and appointment. The impact on universities has, in turn, forced them to urge their faculties to greater effort in obtaining funds, usually from industry, for applied research. Further, many leading universities are openly insisting that their professors earn much of their salaries from external grants (Wasser, 1989).

Human Resources Management

A cloud looming on the horizon for universities and colleges is the matter of compulsory retirement at the age of 70. Congress and the Executive, swayed by university administrators, exempted higher education from the law eliminating compulsory retirement. That exemption lasted until the end of 1993. The exemption has not been renewed and colleges and universities have joined government and other institutions in not having a compulsory retirement age. This, however, has brought faculty tenure, already under attack, into question. Analysts have pointed out the logic of the next step when retirement age disappeared - the removal of tenure or life-time contract. Debate will intensify as to whether tenure has mainly job protection or academic freedom as its objective, i.e., whether it is a haven for professors to publish and lecture on unpopular material, or primarily a surety for jobs.

A cursory survey of mission and vision announced for higher education notes the customary ringing phrases that the general aim is the maintenance and maturing of universities as high quality and cost-effective institutions, at one and the same time serving excellence and access, promoting the advancement of knowledge, the pursuit of scholarship, and equal opportunity for education, thereby fulfilling the function of meeting the needs of society. But, for the most part a managerial view of the university mission prevails.

Even attention to larger numbers of students from nontraditional groups (racial and ethnic minorities, discriminated-against female gender, elder, retired persons) seems mainly to be a way of insuring institutional survival rather than a deeply held belief about the intrinsic value of a university education for a greater number of people. To be sure, the nearly infinite diversity of the American higher education system, with heavy emphasis on a variety of approaches to meet the needs of different types of students, continues to amaze and even inspire other national systems of higher education. Unlike the European model of elected governments accepting the responsibility of insuring the education of all their citizens up to the highest levels from which they and their societies are able to benefit, in the American education system government intervenes only to insure access to all, discriminatory practices against none, and instrumentally determined research

(often military and defense) and leaves the rest to the universities' own visions of the future and their power to bring them about.

Such intervention apparently carries with it the influence of the model of government bureaucracy. The increasing attention being directed to the structure of the academic community has brought to light the radically changed profile of university personnel, i.e., a rising bureaucracy and relatively stagnant faculty numbers. From 1975-1986, for example, where the figures for faculty increase by 26,707 to 473,537, „support“ staff rose by 162,000 in which the largest increase was in the category called „other professionals.“ Those in such titles as financial aid officer, counselor, auditor, athletics coach, and system analyst have grown 61.1% in the last decade. While the rise in number of secretaries and clerks has been 9.2%, executive/managers, 18%, and technicians 15%, these averages obscure the fact that in several large universities the decade increase in nonteaching professionals has ranged from 100% to 170%. Cited reason for mushrooming academic bureaucracy are the proliferation of state/federal regulations, the demand by students for a wide variety of services, disposal of hazardous waste, maintenance cost, computer laboratory expense, and job placement activity (Digest, 1989).

With regard to salary the previous 10 years have seen an inching up of pay for academics to the place of sixth best paid professionals behind lawyers, engineers, physicians, pharmacists, and advertising and marketing managers. In 1979 faculty were twelfth. While in real terms professorial salaries went up 12%, slightly more than the inflation rate, academic administrators wages were 21% higher than faculty. The gap between administrator and teaching faculty stipends has doubled since 1980. Along with the deleterious impact on faculty morale of this discrepancy, there is the rapidly developing payment difference within the disciplines, between demand and supply subjects. Within a brief four year period (1980-1984), business management was up 12.2%, law 13.4% engineering 11.6%, computer science 12.6%, and psychology 8.3% as contrasted to communications and humanities 3.8%, library 6.2%, and education 3.4%. In general, faculty members in fine arts, foreign languages, literature are faring far worse in income than those in law, computer information, business, medicine, and engineering.

There has been some questioning of the major research university serving as the sole model for higher education. More observations are being made that faculty vitality, as distinguished from research and scholarship, is the key to current academic developments. It is seen that teaching loads, administrative practices, rewards and opportunity, and institutional structures influence faculty productivity and morale. Such factors as organizational culture including clearly articulated missions, leadership, collegiality, customs, and ritual have a role in faculty vitality especially in small and state colleges and universities and even in research universities whose single model is faculty distinction in scholarship and research. To enhance this vitality measures are being taken to foster diversified academic

careers; encourage career planning; facilitate faculty collaboration, risk taking, and role change; employ flexible academic personnel policies; and recognize and reward professional achievements and train deans and department heads to work as faculty developers.

Conclusion

This survey has once again shown the complexity and diversity of the gigantic American higher education system in outlining significant trends. It necessarily touches on research, pure and applied, connections to industry, academia as profession, education of teachers, faculty vitality, accountability, relation to schools, access, proliferation of academic bureaucracy, community activities, the role of university presidents, function of professional and accreditation agencies, funding, curricula, management objectives, university mission, government intervention, changing profile of the student, and salaries. It has been beyond the scope of this account to rank in importance the directions and tendencies in American higher education but that task in this period is likely less valuable than merely describing them.

Relation of Short-Cycle Higher Education to Universities - Separate, Merged, System or Branch?

The strengthening of short-cycle higher education whether in a *Fachhochschule*, university college, I.U.T., regional college, H.B.O. or polytechnic has been a fact of tertiary education for the last thirty years and has been an appropriate response to three different factors: economic, social and financial.

From the economic and labor market point of view, the non-university sector was needed to furnish the labor force with graduates in the fields of engineering and commerce who could function at the middle levels. For a social standpoint, developing short or practice oriented courses outside the universities was thought to provide higher education opportunities for a majority of secondary school graduates. And last, financial constrains or public budgets called for a decrease in public expenditure per graduate in higher education. The non-university sector was a way to achieve this.

A case in point is the Dutch H.B.O's which established changes and prefigured proposals in other countries. External influence resulted from their achievement in gaining substantial power when they were entrusted by the government with stimulating and coordinating the process of merger between non-university institutions of higher education.

While the H.B.O's conducted first phase professional courses, universities offered the second phase, thus altering the previous circumstance wherein universities considered an H.B.O. degree as equivalent to one or two years of study. H.B.O's also decide which other non-university institutions could join.

While universities are governed by the academic community or academic administrators linked to them, non-university level institutions of higher education are guided by trustees or councils comprised of a majority of external representatives. An apparent consequence of this difference is that the range of potential innovation regarding studies is thought to be greater in H.B.O.'s.

A comparable attempt to individualize the mission and status of non-university tertiary education has been vigorously pursued in Norway where it was believed

that novelty, experimental curricula and imaginative faculty attracted students to district or regional colleges which constituted a cultural counter weight to the force of national universities. Problem-oriented curricula organized cooperatively supplanted teacher-student authority-relationship. District college innovations were considered to have resulted in increasing flexibility in the universities' handling their own problems.

Indeed, recently in Israel where universities have been totally dominant, non-university higher education is developing with similar influence. While the best students go to the newly established regional colleges since they offer fields of study that lead to good jobs in computer science and bio-technology, the least qualified may end up in the universities in such departments as physics and literature, for they are not popular at present and competition for admission to them is much less intense than it is in such subjects as business, computer science, economics and law. In the past, an invidious distinction was made between „noble“ institutions (universities) and „less noble“ ones (short-cycle) in which the measure of the distinction was the traditional academic value system: theoretical and certain professional studies were favorable contrast to more applicable professional and semi-professional knowledge and skills.

Parity of esteem with universities was seldom achieved; even the effort boomeranged for it involved neglect of tradition short-cycle functions which troubled prospective employers. What was apparent was that the closer the social distance between university and non-university higher education the greater the concern over parity of esteem and over „identity.“

The question arose early as to whether to strive for upgrading and risk becoming weak or second-choice university type institutions or professional schools or to develop a different orientation emphasizing variety rather than quality.

In those early years of the '70s and '80s distinguishing between models in the variety of tertiary education was necessary. There was the *binary* model (characteristic then of the United Kingdom and the current in Germany). The *multi-purpose model* described Norway's district or regional college-university network curricula that enabled students to pass from one sector to another while maintaining the specific mission of both. The *comprehensive model* integrated short and long cycle higher education within an overall administrative body; examples were the *Gesamthochschule* such as Kassel in Germany and City University of New York in U.S.A.

A different approach postulated an *integrated model* in which students with different prerequisites and abilities were admitted to the same institutions and same course of studies, as in the Swedish system and a *diversified* model constituting a multitude of separate institutions within tertiary education as in the California three-tiered public higher education or the State University of New York, the largest system in the U.S.A.

Two kinds of drift in short-cycle higher education were noted early - *academic drift* in which the tendency is to converge upon the university as the perceived ideal and *systemic drift*, the phenomenon where in external pressures and norms are inside the academic community.

II

Non-university institutions confront the problem of harmonizing vocationalism and education for competence with liberal education for personal development as well as the problem of gaining acceptance for this compatibility in a policy environment which stresses the relevance of what is taught to the work place.

Universities face the dilemma of whether their charge includes training and education for the less esteemed professional and semi-professional technologists and whether the inclusion of directly middle-job curricula within their precincts inevitably dilutes their traditional roles of basic research and knowledge dissemination and creation.

Arguments on both sides of the issue have been widely published. Among justifications for the independence of short-cycle institutions has been the notion that vocational post-secondary education produces new types of qualified man power as well as an inter-disciplinary approach in place of the narrowly vocational oriented education of the schools. Moreover short-cycle institutions provide some basic university education which relieves universities of part of their teaching load viz. in the instruction of first year university courses. They are also more effective vehicles for continuing and adult education which serve local needs for qualified manpower in areas where universities are distant or not interested in such a commitment. In addition, short-cycle institutions in contrast to universities are regionally relevant in accumulating and developing local applied research. Practice is added to theory or concept in the assumption that technical programs are the key to economic growth. Moreover technical and para-professional programs at the secondary level have been upgraded to post-secondary status; a slowdown in social mobility has produced this upgrade in order to increase social movement. Regional boosterism and greater government control have also influenced this change.

An example of a country coming late to non-university higher education is Austria which, aware of what worked and what did not work in the twenty-five year history of *Fachhochschulen* in neighboring Germany proposed to transmit a high level of vocational-technical education to be capped by a Magister and Diploma-engineered degree distinguished from university degrees by having F.H. added. Learning from still other countries, Austria legislated that applications for federal support to establish *Fachhochschulen* (F.H.'s) had to follow certain criteria, among them the innovative character of the program in terms of organization and content, the complementary nature of the program given existing institutions

operating in the same or related fields, the prospects of viable, long term development, the reduction of regional disparities within Austria in terms of access in institutions of higher education, the adaptation and use of existing resources such as physical plants, the participation of the private sector in financing, international exchange of students and teachers and the identification of new educational „target groups.“ e.g. apprentices, continuing education for employed adults (1993).

At the same time as Austria was enthusiastically entering non-university higher education, a noted policy analyst was cautioning that simply structured systems (Sweden in the last two decades, Italy) were having great difficulty in coping with the growing complexity of tasks. With some disdain he goes on to write that national public universities were turned into conglomerates within which an expanding number of interest groups fight all the battles involved „in doing everything for everyone.“ An informal agreement is reached about what the traditional university cannot do - does not want to do about short-cycle higher education and consequently creates or sees evolved institutes of technology and two year colleges and other units that award first degrees of their own. Moreover the university cannot do - does not want to do extensive adult or continuing education, allowing „user friendly“ regional colleges to be established.

Consequently sectorization, individualized by country, is seen as the answer to over-loading simple structures. If additional types of institutions are not created or permitted to emerge, the all-in-one conglomerate becomes nominal forms and pretends to an academic unity that is artificial and asserted for political reasons. (See Burton Clark, „The Problem of Complexity in Higher Education“, pp. 266-267 in Sheldon Rothblatt and Bjorn Wittrock, *The European and American University since 1800*, Cambridge University Press, 1993).

Here, of course all things „old and new“ are measured by the rod of the traditional or perhaps more exactly the research university. The development of the comprehensive university, the *Gesamthochschulen*, the integrated university, the *Fachhochschulen*, the *hogskola*, the polytechnic in response to perceived social needs are of lesser concern. The true agent for the great tasks of research and education is the university. The agent for the more trivial tasks of training the technological competence, semi-professional education and continuing, recurrent education is the short-cycle institutions which the universities permit to evolve sometimes within the public university, but better outside of it. The analysis may well comfort the academic community, as we have know it, but for our purpose it serves mainly to indicate that there are policy analysts who would have short-cycle structures exist outside the university since within they simply clutter or slow up or dilute traditional university functions.

And yet it is clear that such institutions play different roles in different countries. Several studies have shown that the proportion of new higher education entrants into short-cycle institutions varied in the mid-eighties from 3-4% in Italy to more than 70% in Norway and Sweden (O.E.C.D. 1983, Clark 1985, Teichler

1988). Teichler has reminded us that there is no generally agreed upon delineation among countries. In some, he has argued, a „vocational“ emphasis of non-university higher education was considered to differ only moderately from university education. In others a vocational profile was thought to contrast sharply from that of the universities. It has even been observed that the differences have gradually blurred over the years as a result of „academic drift“ in non-university higher education and „vocational drift“ in the university sector.

A more recent O.E.C.D. study (1991) confirms differences in size and therefore in importance. The ratio of entry-university and non-university - into full-time tertiary education may be divided into three groupings: university dominating U.S. 38/32, Finland 32/26, France 26/16, Denmark 25/10, Australia 32/18, Germany (West) 31/11, United Kingdom 17/9, Austria 20/6, Czech and Slovak Republic 13/1, Turkey 10/1. A middle category has the ratio roughly even with Switzerland 11/10, Belgium 21/21, Japan 23/27, Ireland 17/13, Portugal 19/14. The third group shows weighting toward non-university higher education: Sweden 11/34, the Netherlands 11/26 and Hungary 4/8.

Since it has been frequently said that the German *Fachhochschule* has been among the most successful of non-university higher education institutions, a brief description here will be useful.

In 1971 former vocational schools were upgraded to *Fachhochschulen*. Employers' representatives at first opposed their establishment contending that the consequence would be blocking the road to advanced vocational training for talented workers and having a too-theoretical approach in the upgraded institutions. However they came to support it strongly when they saw a loss of youth to the universities. Indeed they also opposed the „third“ way, *Gesamthochschule*, (the comprehensive university) preferring the twin tracks of theoretical in the universities and vocational/practical in *Fachhochschulen*.

There were other opponents who although a small minority vigorously attacked the increase in number of shorter courses because criteria were not defined by which courses should be allotted between universities and FH's but were selected as the least expensive of reform solutions, thereby highlighting the prestige status of universities. They also found a failure to improve quality teaching, a stated objective of FH's and the distinction between developmental research (FH) and fundamental research (universities) to be artificial. The conclusion to their argument was to propose a new type of tertiary education structure - the mass university which would integrate the FH's with the university/system and have a broad range of differentiated courses that are thought most fit to meet the challenge of a changing society. (See Jürgen Schramm unpublished mss. „The Impact of unification on the System of Higher Education of the Federal Republic of Germany and the Special Case of Universities in Berlin“).

Fachhochschulen spokesmen are presently waging the fight on a different front. In order to market themselves internationally, FH's want to be called uni-

versities (perhaps universities of applied studies and research). Their academic leaders are certain that their degrees are more than equal to international bachelors degrees. Moreover, they want the right to award international bachelors of arts degrees after six semesters of instruction on the way to diplomas which are awarded after a minimum of eight semesters. The university degree require a minimum of ten semesters. The strongest subjects in the *Fachhochschulen* are engineering, information technology, economics and business management. On the whole *Fachhochschulen* appear to have gained increase in status on their own right without being measured in traditional university terms (Times Higher Education Supplement, July 1997).

The trajectory for Swedish short-cycle higher education has been different. Proponents hold that the most striking characteristic has been the integration of the general, vocational and further education within one national system without any clear cut distinctions between the three functions. All units offered the same types of study programs and independent courses from the largest universities with their full range of faculties and programs to the smallest regional university colleges with only a small set of study programs and courses within one or two program sectors and thus different from countries with binary systems divided between academic and vocational.

Yet like binary systems, in Sweden permanent pure research organizations and such institutes as medicine along with graduate programs for doctoral studies are only in universities, but mainly there is integration of short-cycle higher education into a national system what localized or regionalized components - university college - rather than binary separation.

These developments occurred despite indifference from university leaders as evidenced in the Barcelona meeting of the European Rectors Conference (1993). They estimate that about one third of an age group attends an institution of higher learning in the changed labeled „professionalization of universities“ (Gilles Bertrand). In their view the tertiary educational system has not fully adjusted to the new demands resulting from the greatly diversified social and educational background of today's student body. The tertiary educational system has not fully adjusted to the new demands arising from the highly diversified social and educational background of current student body. Its response has been mainly institutional or structural in upgrading vocational schools and technological institutes or polytechnics and downgrading the classical university.

Ralf Dahrendorf has asserted that Europe has not yet found a way to deal with mass higher education. The rectors apparently believe that an adequate solution to this problem must include saving the traditional European university and at the same time take account of the varied needs and abilities of the „new“ students. This solution depends on a combination of further institutional diversification, carefully crafted study programs and individual student support policies. Efficiency would allow for individual career paths by increasing the system's vertical

and horizontal permeability while individual student support would give relevant information for an intelligent choice between alternative career paths.

Stockholm university's rector noted the echoes of the German debate in that *Fachhochschulen* (university colleges in Sweden) have displayed more flexibility and efficiency in education and training than the traditional universities which are overcrowded and generally not capable of adjusting to new social needs. He thought such allegations should stimulate the universities to reflect on their primary obligations towards society and to take a firm stand against those external demands that they simply were not meant to fulfill. The modern university, a very complex institution, serves many purposes simultaneously, producing internal tension. But one common characteristic, he concludes, is the bond uniting research and education. From that Humboldtian stance courses are derived.

The Netherlands took a different and highly individual approach to short-cycle higher education. Instead of separation and independence (*Fachhochschule model*) or national system transformation of the entire higher education system into *Hogskola* (early Swedish model) or the binary model based regionally with emphasis in semi-professional preparation (present Swedish model), the Dutch merged all short-cycle institutions into a national system of H.B.O's aside from the universities.

Sectors were then treated as a collection of coherent subjects: nine different sectors were distinguished: Arts, Science, Law, Economics, Health, Behavior and Society, Technology, Education and Agriculture. All institutional policies were to be market-oriented, almost all courses and research were to be inter-disciplinary with stress on internationalization and quality control.

Previously H.B.O's had been uni-sectoral, now they were multi-sectoral but their organizational structures resembled those of universities. These changes were brought about by strong government intervention for separate but equal systems. Moreover these institutions discovered they had a comprehensive national planning system which increased professional instead of institutional orientation. Steering or guidance at the sector instead of at the institutional level stimulated this tendency.

Therefore separation or independence of short-cycle structures resulted in the Dutch case in a national non-university higher education system and increased professional orientation at the individual institution.

The American community college enrolled at a lower level may be casually compared. Actually the American four year technical college is more equivalent. It is however, the argument for or against separation or independence from university that turns us to the community colleges which most often are separate under independent coordinating boards. Even where previously controlled by or placed in a flagship university, change has come as in the state of Kentucky where the governor has succeeded in removing community colleges from the University of Kentucky arguing that such separation leaves the university free to raise its re-

search status and to increase the flexibility of the community of the community to meet the training needs of regional economic development.

Arguments have tended rather to consider the increase in vocationalizing community colleges, and the decline in curricula as preparation for transfer to universities. Seeking the origins of this change leads to several questions.

- Did students demand or oppose occupational education? If the students did not demand vocationalization of short-cycle higher education, did business do so to secure publicly subsidized employee training to reduce its labor training costs?
- Were community colleges established to protect the selectivity of the elite universities? Or were the community colleges established primarily by government officials in pursuit of public policy for such a good.

This ideological debate assumed a separate short-cycle facility and concentrated on whose interests it served. The major structural debate was whether to overcome institutional separation between community and four year colleges either by converting community colleges into two year colleges or by converting community colleges into two year university branches.

Either change would probably improve transfer procedures - lower division academic preparation would be better attuned because faculty in the lower and upper division would be the same. But it must be noticed that 65% to 80% of community colleges entrants are not baccalaureate aspirants but rather are looking for vocational remedial or adult recreation education.

A branch campus is likely to put less emphasis on vocational education. Some are entirely academic. They maintain strong vocational programs. They may facilitate the pursuit of the baccalaureate degree by making transfer and admission easier. Similar transfers can be made with difficulty in the German system and are practically impossible in Greek higher education where the state has asserted (1993) that for those who fail the general examination for the university, there is an alternative option, Institutions of Professional Knowledge.

Further, since students of the branch campuses are members of the university, they are most inclined than community college students to transfer, receive financial aid, be prepared for upper division and be more compatible to the upper division college. Studies show that twice as many students transfer from the branch campuses than from independent community colleges.

None of these approaches have fully matured, but they are suggestive to the comparativist of short-cycle higher education.

The French experience, my final example, has been different. A policy analyst has recently remarked that with respect to I.U.T.'s French short-cycle higher education structure, very bright students opted for I.U.T.'s because they were selective but the teaching was not really intended for them, and they did not really want to be trained in technical subjects and did not envision a technical career. And

when after two years they applied for transfer to universities, they discovered the two years were not at the cultural level of the university and the two years were, consequently, in a sense wasted.

Others were opposed to universities devoting so much resources and time to short-cycle, short term training (I.U.T.'s were both outside and within universities) and therefore slighting their major objective which is scientific development and training by research for students of heterogeneous background. To avoid difficulty there have to be cross-linked schemes and appropriate bridging courses.

My conclusion is not dramatic. Separation versus integration with regard to short-cycle an university higher education turns out to have variations and modifications on both sides of the contrast, depending upon country. What seems clear is that the whole higher or tertiary education continues to change and that its diverse structures because of the rapid movement in higher education since the 1960's have not been fully formed or matured.

Short-Cycle Higher Education: A Comparative View

Policy assertions and analyses regarding short-cycle, non university higher education in various European countries often resemble but occasionally differ from each other. Even resemblances may differ sharply in degree yet the reference point is inevitably the university.

First there is a marked distinction in the degree of autonomy - financial in terms of appointment of key personnel, political as to which bodies control decision-making and evaluative in the varying methods of assessment within short-cycle institutions and in contrast to universities. For example, local or municipal bodies may control non-university higher education institutions and national bodies, universities.

These differences occur on many issues essential to some mode of higher education. Their number includes for short-cycle institutions or programs:

- vocationalization of higher education
- primacy of practice over theory
- low drop-out rates
- compulsory places for industry needs
- emphasis on the internship process
- industrial/professional background of lecturers
- orientation toward curriculum development
- in-service management and training
- placement of students in local industry/business
- training programs heavily responsive to labor market demand
- faster enrollment growth than in universities
- distinction between technically and theoretically
- oriented programs as between "applied engineering" (short-cycle) and "engineering science" (universities)
- transfer to university
- articulation of short-cycle courses with those in university

- foundation preparation year (after which about 1/3 of all students dropout)
- superior quality of teaching and non-cognitive nature of the curricula
- science taught as science in universities and as technology in short-cycle institutions
- final control resting clearly in trustees or councils composed of a majority of external representatives who have a definitive say in contrast to universities which are mainly controlled by the academic community or administrators.

The comparison of university to short-cycle institution has led to proposals for developing a variety of first degree programs that would range from 2 to 5 years (advanced degrees only for the most gifted students). They arose when planners were confronted with the enormous cost of mass higher education.

An early structural response to expansion in German higher education was the *Gesamthochschule* which offered different kinds of tertiary education and training to students with varying qualifications flexible programs and periods of study and content of study -all to create diversity in unity. The decline of the *Gesamthochschule* concept led to the expansion of *Fachhochschulen*, the post-secondary structure upgraded from the vocational secondary institution. They were considered to be complementary to the first years of university offering what in American terms would be a Bachelor's degree in professional education.

This short-cycle education was better with regard to secondary schools, teacher training, education and continuing education than that in universities. Moreover there was an easier transition to career/job by *Fachhochschulen* graduates since they were more familiar with actual practice in field. *Fachhochschulen* were also more clearly associated with broader democratic opening of system, and had established a new balance between traditional academic programs and newer professionally oriented ones.

While the degree of innovation for short-cycle higher education can be measured in content of studies, other advantages include the:

- location of learning (centralized, geographical spread),
- the openness of access to those lacking formal qualifications,
- the recognition of experience as a substitute for formal qualifications,
- an openness to all age groups, the existence of participatory as opposed to autocratic structure or bureaucratic decision-making. And provision of educational and vocational counseling.

Critics like Burton Clark supported the German separation of short-cycle institutes from universities, asserting that without additional types of institutions, all-in-one conglomerates increasingly become nominal forms, political pretenses to academic unity and cramping space for new units undertaking new tasks.

The Netherlands approach was different. The emphasis on H.B.O's was sectoral consisting of: collection of coherent subjects viz. Arts; Sciences; Law; Economics; Health; Behavior and Society; Technology; Education; Agriculture. Steering at the sectoral instead of institutional level also stimulated an increase in professional orientation instead of institutional orientation.

In Sweden the justification for short-cycle higher education was more concretely articulated. Four major functions were outlined:

- (1) *a service* function giving people, enterprises, and public institutions in their respective regions access to education facilities.
- (2) *an incentive* function for the economic and industrial development of their regions through their service as basis of knowledge and of specialized training.
- (3) *a localization* function by which people and enterprises are influenced to move to the given regions or to stay in them.
- (4) *a stimulation* function for the cultural lives of the regions.

Three major reasons for developing or strengthening short-cycle institutions were cited:

- (1) modern economies increasingly need young people with qualifications for which secondary schooling is not sufficient and traditional long and theoretically oriented higher education is superfluous and inappropriate.
- (2) traditional higher education cannot satisfy existing demands for student places or if it does, the high dropout rate shows that too many students are in fact unable or not motivated to pursue traditional long studies (but are not universities "dumbing down?")
- (3) the cost of non-university higher education is usually (not always) significantly lower than the cost of traditional higher education.

In addition there is considerable country variation in ratios of entry into full-time tertiary education with regard to university and non-university higher education entrance. (see *Education at a Glance* O.E.C.D. 1991).

Among the high university and low non-university entrance rates are: Australia (32 and 18), Germany-West (31 and 11), France (26 and 16), Austria (20 and 61), United Kingdom (17 and 9), Czech and Slovak Republic (13 and 1), Turkey (10 and 1), and Denmark (25 and 10).

Those roughly equal in rate are Japan (23 and 26), United States (38 and 32), Finland (32 and 26), Belgium (21 and 21), Norway (20 and 16), Ireland (17 and 13), Switzerland (11 and 10), and Portugal (19 and 14).

With somewhat higher non-university than university entrance rates are: Sweden (11 and 34), Netherlands (11 and 16), and Hungary (4 and 8).

The sharpest contrast is between Sweden and Germany (West) although the recent establishment of 24 *Fachhochschulen* in former East Germany may soon alter

the ratios. Nevertheless one conclusion can be that Germany still holds closely to the Humboldtian University of linked research and teaching and traditional academic values while Sweden of all O.E.C.D. countries has innovated or experimented the most with comprehensive higher education.

Indeed a leading researcher in Sweden writes arrestingly of the widening gap between "Lehre and Leben." Bertilsson points out that the growth of vocationally oriented colleges is in itself nothing new. A large number were established around the turn of the 19th century - institutes of technology, veterinary and agricultural colleges, for example. These older colleges, however, were located close to the old universities and their proximity brought about regular university contacts and were related to the old prestigious professions in contrast to the present lower social status of regionally and politically decentralized colleges. The new ones are usually connected with sectoral interests - either to the regions specific economic needs or to a state's effort to distribute higher education more equally across the country with specific national vocational needs. Examples are colleges emphasizing programs for North Sea technicians, (Stavanger, Norway), for mining industry, for research and education of personnel in public health care and medical care, for educating recreation and day care personnel.

A specific characterization of these colleges is that they do not have the same strong professional knowledge interests; they are not discipline oriented in the same way as universities. Nor do they provide the same breadth of teaching. But they would seem to satisfy industry's need for a highly educated labor force oriented to distinctly practical occupations. Both business and political interests, pursued the necessity of anchoring theoretical university research in a practical context. During this development universities themselves underwent profound changes. For Sweden even the terminology changed- the university now being merely a part of a comprehensive higher education system which includes colleges of mainly practical orientation. One can also speak of the "pragmatism" of the university; the diverse practical demands from the business community as well as the state threaten to undermine the constitutive ideas of the university - the changing environment challenges our understanding of what university is or what it could be and forces reconsidering the founding imperative, of the Humboldtian university.

While the Swedish experience mirrors the general European approach to short-cycle higher education, the American community colleges resemble and differ. The American community colleges are mainly public, two-year colleges operating under joint local and state control and offering programs in vocational education, liberal arts, adult and community education and remedial education. Other public two year colleges include two year branches of state universities (as in Penn State University commonwealth sectors) and public vocational-technical institutes and schools that offer almost exclusively occupational programs. These colleges are

also, of course, a reflection of widened access. One-quarter of all higher education institutions in 1989 were public two year colleges which enrolled 35.8% of all college students and 44.3% of all college freshman. They are noteworthy for their commitment to occupational education as well as for open admission. An original objective has declined in importance viz dwindling of the community college's role in baccalaureate preparation.

Moreover recent data indicate, according to several researchers, that the origins of the community college are considerably different from those previously cited.

It was considered that local or regional businesses, labor market, education and training needs or student desire for higher education led to creating more institutions and students not particularly qualified in the traditional sense. But it is now believed that similar to European development, community colleges in U.S.A. were founded mainly out of government policy created federally and executed at the national, state, and local levels. The level of instruction, however, at the American community colleges remained at a lower level, the result of Europe's one year additional schooling at the pre-higher education level or stronger and more substantive specialized education content in pre-higher education.

Indeed theories of educational change have paid scant attention to community colleges. Government policy makers would disperse community colleges widely, keep them cheap and tout vocational education strongly. However, business providing the major part of membership and leadership of local community college committees has publicly subsidized employer training and fostered local economic development.

Nevertheless cultural unification and intergroup cultural emulation and competition, have resulted in extraordinary similarity of community college development across U.S. despite its very decentralized origins.

In this development a wide variety of government officials - ranging from local educators and university officials to state government and congress members - have been crucial advocates of the founding and vocationalization of community colleges.

Major questions regarding changes in short-cycle higher education remain. New curricula shaped by the definition and requirements of professional programs are being developed. For Europe those requirements are equal roughly to those for a Bachelor's degree where traditionally the first university degree was the *magister* (taking at least five years post secondary or post gymnasium study) suitable for public sector jobs once available in large numbers. The decline of such positions in Europe led to the growth of three or four year short-cycle study equivalent to a Bachelor's degree, more adaptable to the job needs of the economy. Moreover the European Union now requires three years of higher education for transfer and for minimum professional job qualification.

For American community colleges whose two year program is at a lower level since pre-college preparation is one year less than, for example, pre-*Fachhochschule* study, the transformation might be toward a Bachelor of Technology degree. The vocationalization of the American community college could require this spread upward to the four year technical degree, roughly equivalent to the European Fachhochschulen or H.B.O. degree.

Or contrariwise the development of the American community college or even for the European *Berufsakademie* might be toward regionally, community oriented training for lower level technical jobs requiring only one or two years post-secondary school education.

Finally, will these changes in short-cycle higher education whether elongated into three or four year post secondary study culminating in something like a Bachelor or Technology degree or shortened to one or two year post-secondary study resulting in a certificate credential to satisfy low level technical job requirements take place within the university, as a branch of the university or within an independent institution?

9

Central European Higher Education: Problems and Perspectives

Current analysis of East Central Europe higher education systems as they have moved from the centrality of command economies and political authority toward free market and democratization has to consider issues debated for decades in the West. Old patterns of university structure and resistant attitudes toward change persist. The impact of new curricula as in business management, law, sociology, humanities, marketing, and finance has not been so heavy as expected in the planned reform of higher education. Vocational emphasis has simply shifted from preparations for *nomenklatura* and technical positions to market orientation with respect to business, law, advertising, finance and other employment suitable to laissez-faire economics.

Funding has been in transition with less money from the state and more required from free enterprise business and industry, from student fees, from foundations although none of these items has yet approached the dimensions of the West.

Access to higher education has widened from 5% to 8% to 15%-18% but not to the ratio of Western Europe which has moved from 15% to 30% or more of the age cohort. Promotional structure of faculty has remained for the most part mired in the pre-1989 rigidities. Student and faculty attitudes toward higher education have altered as both have had to take on several jobs to attain to a minimum living standard with neither having a special commitment to the university.

Since 1989 there has been considerable reliance on foreign help from European Union countries and the U.S.A. accompanied by a growing sense that there are limitations and consequences to such aid that make it desirable for these higher education systems ultimately to be thrown back on their own resources.

A shift of decision making authority has occurred in varying degrees from ministry to collegial/senate bodies with partial jurisdiction given to students but not to the extent obtaining in Western Europe. This relatively new collegial power is mindful of post 1968 developments in Western Europe now in the process of being overcome by presidential and managerial authority and is an anomaly in this

phase of managerial and administrative flowering in American higher education. However, awareness of a need for professional management appears to be increasing among university rectors in the Visegrad countries.

The relationship between autonomy and accountability debates for the last two decades in the West is rising to the top of the agenda.

Pre-1989 separation of research and teaching is eroding with universities incorporating many research projects and academic teaching taking place in a few institutes and academies. The consequence has been dimming the lustre of academies. This change has been more vigorously accomplished in Poland, Czech Republic and Hungary, less so in Slovakia.

While the influence of higher education systems in the countries of the European Union and in the U.S.A. has been heavy, though spasmodic, the pervasive feeling is that in only a matter of time Germany with its geographical location and economic and political strength will have a major impact on higher education in this region.

To be sure, the proliferation of *Fachhochschulen* in lieu of establishing new universities in the former German Democratic Republic and a form of colonializing of East by West Germany have drawn mixed reactions. In addition, Germany is presently pre-occupied with internal problems of vast overcrowding, excessive length of time for studies, relation of *Länder* to Bonn i.e. the operation of federalism on higher education, as evidenced most clearly in numerous conferences with such titles a German University Past and Future Crisis and Renewal, Mythos Humboldt Vergangenheit and Zukunft den Deutsches Universitet.

The questions that arise in the debate are whether universities are primarily centers of research and higher learning or training grounds for specialized occupations? Can these purposes be united? Can universities take a cultural leadership role? Or will they in the manner of American universities become centers for social and cultural conflict?

Central European universities, however, in moving from a training ground for *nomenklatura* to free enterprise curricular emphasis will likely erode the cultural and social conflict of the West and the often illusory Western view of universities as agents of social change. The likelihood is a move toward the vocational as well as the professional and consensus cultural institutions. Or put another way, theory might be leavened, even overwhelmed by practice. Indeed concomitant with this development will probably be the continued growth of private institutions which will be evaluated more rigorously than they are currently.

The bull market in private education is being fueled both by the collapse of adequate financial and administrative support for state institutions and the demands of a rapidly changing economy. Most private universities have been created to meet the demand for business, economic and administrative education lacking in state higher education where there is traditional offering of science, technology

and theory-based humanities. Many private colleges are small and of questionable quality, waxing and waning, but a significant number have competent staff and give a quality education. Their graduates customarily work for banks, joint-industry-bank ventures or commercial firms.

Doubts are looming about the appropriateness of the American model in educators who assert that American education is too pragmatic but concede that European fundamentalism needs to be tempered by the pragmatic. With respect to universities and industry, initial enthusiasm for industrially orientated undergraduate courses may be declining in favor of general education followed by specialist post-graduate work or methodological grounding succeeded by technical training.

Still the model is going to be Germany; the problems of its higher education system will be carefully scrutinized. To the already noted growing number of students are added the difficulties brought about by insufficient maintenance or expansion of buildings and equipment, overburdened senior faculty, insufficient number of positions for qualified younger scholars and most of all, a widespread malaise resulting from the absence of a generally accepted sense of purpose. Yet the consequences of unification of West with former communist East Germany, have not been particularly pertinent to deconstructed Czechoslovakia or disintegrated Yugoslavia.

The malaise of German higher education may be seen in several circumstances. Universities do not meet the demand for highly qualified personnel, beyond the *Fachhochschule* level, and for productive research work. Programs and curricula for students are within a too narrow range. Higher education structures in former G.D.R. require extensive renovation in curricula, organization, governing policies and technical resources. The single market European Union has many demands for qualified personnel which will have to be met in intense competition with the national higher education systems of the member states.

Despite inherent difficulties, malaise is not characteristic of the Visegrad countries' higher education systems. Striving to hold to certain traditions of communist and pre-communist regimes, they seek ways to harmonize better academic structures, curricula and standards of quality with those already accepted internationally. Moreover diversification within higher education has increased both in public and private institutions and undergraduate and graduate study programs.

The central focus in the West on assessment and accountability is reflected in central and eastern higher education where consequences and differentiation are noted by reference to type of institution (university, polytechnic, colleges of further training and short-cycle post-secondary education) and to specialized assessment and accreditation of study programs. Distinguishing between institutional evaluation and accreditation is important since several institutions have changed their traditional structures without considering all the implications. Furthermore, many new institutions, public and private, have closely copied the structures of the

most reputable ones without regarding the subsequent cost and requirements such a decision entails.

While economic necessity often forces faculty to teach in both public and private institutions, the conflict of interest has not reached the stage where the balance between external quality assessment and internal quality assurance has been established. And the "culture of compliance" has not disappeared.

Of significant relevance for outside observers anxious to help, the possibility of regional cooperation looms large. While there may be a common agenda in Central and Eastern Europe for transforming their higher education and research systems, values and limits of mutuality are quickly apparent. Poland, Hungary, Czech Republic and Slovakia, for example, all confront the matter of internationalizing their curricular planning and of "brain drain" both externally to richer countries and internally to much better paying jobs in business and industry.

They foresee potential dysfunction between short-cycle and university education especially in transfer or transition from 2/3 year term to 4/5 year degrees. But the common goal remains a diversified system with close relation to business.

Another mutual objective is to transform the teaching of humanities and reinforce humanities at technical universities, recognizing that higher education institutions are significant places where social and cultural life is pursued in all its forms.

External advice such as the O.E.C.D. recommendation that older teachers influenced by the past be replaced by younger teachers is not useful since such a change is very difficult when young teachers can attain much greater income outside higher education.

And if there is to be a common agenda it is to be in the words of analysts, "reform without disruption" (Hungary) or "shock therapy" (Poland) or primarily support and approval of existing science and technology institution (Czech Republic and Slovakia) or the survival of the best or fittest approach as in the Polish example of skimpy funding for mediocre research institutions with 60% of all available funds going to the top 30% ranked institutions.

The lesson of the past is being learned in these countries where they were forced to accept the sterile Soviet system with its non-productive, dysfunctional division into three sectors: universities (teaching), academies of sciences (research) and research and development institutes (development) resulting in universities losing academic merit, academies having little or no contact with the young and R&D institutes producing "non-applicable applied research".

At present these countries have both a "generation gap" in higher education, which some acute observers see as more dangerous than a "brain drain", and a technology gap seriously affecting the economies.

Higher education institutions have similar but not identical experiences, potentials and philosophies despite common objectives and have chosen slightly differ-

ent remedies to deal with their communist heritage. And optimism is tangible that conferences and exchanges may successfully solve mutual problems of "brain drain", generation gap, technology imbalance, environmental crisis, and change in mentality and attitude.

Closer scrutiny after the 1989 revolutions had led to the conclusion that a fairly high level of human capital (training and education) existed particularly in the exact sciences, less so in the social sciences and minimally in the humanities. The chasm in Gross Domestic Product between Eastern and Western Europe was much greater than the gap in human capital. But this relatively well-educated population was not employed for innovation and betterment of communist economies. The resulting frustration had produced internal and external emigration among the most talented, a consequence of the conflict between intellectual potential stimulated by education and the constraints of a communist system.

However this considerable general education might, in the future, facilitate rapid learning of specific skills, an opportunity not available to non-European developing countries undertaking similar reforms. If such reforms are not quickly undertaken, this asset left by communism will be dissipated. For without reforms, it is widely assumed that economic prospects would worsen. Emigration of the most qualified would now be possible because of political liberalization.

Certain programs customary in the West did not exist despite this general level of education; marketing and finance, for example, not needed, did not exist. Dysfunctional curricula were offered that could be maintained only under socialism. result now seen as wasteful also occurred in research. The share of this wasteful process differed across countries and across time periods.

For social sciences this non-utilizable product was mainly in economics. For the technical sciences, it was primarily the reproduction of what had already been invented. Because of isolation from the West, communist countries reinvented what was already being employed in the West. In Poland, for example, distribution of pre-fabricated housing turned out to be extremely wasteful but was vigorously supported because in the communist economic system the only objective was to achieve the highest possible total production. Furthermore, innovation was rare in the pre-1989 economy. Since what happens in the economy is closely linked to what happens in education, support for the free market and democratization is important for the necessary reforms in higher education. (See the writings of Leszek Balcerowicz).

Of course paradoxes abound in both pre and post 1989 societies. Communists constantly talked of linking theory to practice but the reality seemed to be the opposite leading to a wider separation of the two. Again, the extreme pragmatism of the post-communist economists at times appears to be influenced by the "pure socialist product" in its unrealistic operational consequences. In yet another in-

stance, communists attempted to collectivize their societies but, ironically, generated radical individualism.

Historians have noted that before World War II Central European societies were semi-feudal with strong social hierarchies. People recognized that the law could protect them against their neighbors but not against their lords. After forty years, post-1989 citizens now believe that they have the same rights as those in power. A further irony is that the attempt by communists to make society proletarian resulted in the emergence of a new lower middle class and a petit-bourgeois ambience.

Difficulties with initiating reform post-1989 were not primarily the consequence of the pre-1989 paradoxes. Rather were the monopoly of positions, the undeserved high reputation of professors, and the superiority of the producer over the consumer in communist societies to blame. Significantly the key problem, according to Ralf Dahrendorf, was identifying the indefinite, amorphous boundary between the proper sphere of the market and the appropriate public sphere. Under communism, the public sphere was totally dominant but post-1989 with its free market society may have gone too far in reaction.

Other obstacles to reform were the unavailability of requisite knowledge and skills and the inertia of attitudes and forms of behavior dating before 1989. Moreover the "rules of the game" as played in the West were not understood; the complex but functioning mix of student, faculty, planners, state, industry and business, the market, free enterprise has not yet been sorted out so as to see how each constituency has an individual role to play in higher education.

The pre-1989 rules were different when the same blueprint was applied to all the countries of the Soviet bloc, where bureaucracy and centralization brought in efficiency, over-expansion and mis-development. Funds for education and research were always scarce. Objectives were not clear.

But even after 1989, the fact that a substantial part of the academic community was not interested in reform may bring about a restoration of previous mechanisms rather than improvement by new mechanisms.

Present societies in the area wish to employ British, French, German and American models in higher education without comprehensive awareness of how different were the circumstances in which these models were gradually worked out and in which they currently operate.

Even in Poland, Hungary, Czech Republic, and Slovakia which are more advanced than other former communist countries in the region, research and development priorities have not been elaborated. The Polish scientific community may have a wider range of autonomy and self-government but still confronts the dilemma of an over-expanded applied research sphere continuing to duplicate what more advanced nations have produced or the question of whether to concentrate

rather on the adaptation of known solutions to locate conditions which smaller members of the European Union have done.

The well-known divide between teaching and research in the previous societies has not been bridged. The low rate of degree participation in higher education - in 1993 7% in Poland, 15% in Czech Republic - has increased only slowly although Poland has reported 18% in 1995.

Institutionally, there is in law, differentiation between two categories of advanced education viz. universities with high standards and master's, Ph.D's and habilitated doctors and colleges giving in three years professional education but no scientific degrees but enabling their graduates to continue and obtain master's degrees at the universities. The legal framework for such has been established but the evidence is not yet available as to whether the transfer or progress from one stage to the next takes place. This points to the general lack of reliable, independent institutions to evaluate education and research standards.

One might expect that the new societies would opt for a model of democratic governance wherein academic administrators are democratically elected and have the power to make decisions. When they misuse power, they would be voted out. But the model that has informed views about how universities should best be organized has often turned out to be the model of inter-war higher education systems. This model limits the outlook of would-be reformers, restricting their aspirations. Its structure seems to impose no obligation to support change at all.

Lack of substantial structural transformation is common to all these culturally diverse nations. The new legislation concentrated on autonomy and internal democracy, political not structural change. The result has been inertia in favor of continuing old structures, not only the hierarchical and state-dominated forms of the previous regime but also the pre-war centralized pattern of university organization.

Moreover strong reluctance to interfere with changes in society that might have emerged from the efforts of individuals arose (the Hayekian version of free enterprise) or phrased differently to disturb a condition of society in which the slightest change in the irrational but functioning system could create displacement and dysfunction (a form to some scholars of Weberian "substantive irrationality").

Politicians in East Central Europe generally view investments in education as investments for consumption, not for development. But analysts and policy experts for the most part believe that social processes will operate with great difficulty unless the proportion of graduates from the different higher education institutions is dramatically raised in the coming years.

Budgets continue to be formulated by having the number of hired personnel depend directly on the number of enrolled students. Consequently the curricula in these countries have been over-expanded and over-loaded. Students have little time for individual studies, the number of specializations is growing and all efforts

to alter programs and organization of teaching are counteracted because academics are fearful of losing students and subsequently their jobs.

Shared characteristics are an ingrained sense of parochialism, decline of economic and social prestige of higher education, subordination of a variety of post-secondary institutions to various ministries, state committee planning the number of students accepted for any specialization. To be sure all these ills of the previous communist regimes are being ameliorated, but have not been cured.

Also held in common are the new opportunities in consulting, marketing and management. Political influence on higher education varies in degree - weaker in Poland and Hungary, stronger in Czech Republic and Slovakia.

The case in point is Poland, the largest and arguably the most advanced of these countries. A fairly sophisticated view of problems prevails. Awareness that professors have to work at several institutions to achieve an adequate standard of living has not yet led, however, to improvement of working conditions. The questionable quality of newly emergent private universities has been countered by the regulation that they must have a least twenty certified professors on staff. And concern that a considerable number of the tasks of faculty consists of performing non-research and didactic functions is being addressed.

Higher education research systems, however, continue to disintegrate into un-integrated structures like institutes, contrary to stated objectives. Research is financed in small projects and occurs with little originality. Connection between research and social needs is weak. Being burdened economically and socially, academics have little visible interest in quality and are indifferent to their institution. While the figure of 18% of age cohort enrolled in higher education shows significant improvement, the ministerial goal of 30% to bring Poland into meaningful comparison with Western Europe is unrealistic for the near future. Poland like the other countries recognizes that only a sharp, dramatic increase in enrollment will bring the requisites essential for reform.

Hungary, similarly, is alert to the problem that the "philosophy" of the higher education system, the main frameworks, the activities at grass-roots level and the way staff and students think have not significantly altered. An important difference is that the Hungarian system is highly diverse and articulated, even said to be the most diverse in Europe. It has traditional universities and vocation oriented establishments (technical, agricultural, medical etc.) offering five to six year courses, university-level colleges offering four year courses and independent colleges offering three to four year programs, short-cycle three year professional colleges in the "college" faculties of universities and several stages education in a few universities.

Short-cycle professional higher education has long traditions in Hungary, particularly in its schools of engineering and agricultural academies. Even in the communist 1960's and 1970's, non-university higher education colleges grew rap-

idly on the base of existing post-secondary higher technical school system: But again implementation of planned reforms was halted because of resistance by institutions and individuals, lack of power of the government, balance of power among political parties and fear among party leaders of disturbances in the academic sphere.

One concludes that the two main sources that have influenced this region's universities are the pre-World War II or "inter-war" structures of higher education and their transformation under communist regimes. The past still has a strong hold on beliefs and attitudes regarding higher education and on fundamental values that shape postures toward change. The model often derived from inter-war higher education systems has limited the outlook of intended reformers, constraining their aspirations.

New legislation in Poland, Hungary, Czech Republic and Slovakia has changed neither the inner structure of institutions nor the structure of national systems but has focused on the issue of autonomy and internal democracy. But the nascent civil societies have not fully met the challenges of autonomy and democratization, still expecting too much from central state institutions.

Many of the intellectual values of the West did not exist in communist Europe. Systems of higher education in the pre-1989 period had become primarily the tools of government administration in which prevailing bureaucratic values were antithetical to the "academic ethos" on the "republic of science."

Wary of state intervention and collectivism, the ascendant democrats are significantly concerned with fairness and the general good in the new societies - their frustration may result in blaming the "market" for too little and too much change and for anomie in higher education where formerly the state was held responsible. It should be recognized that developing civil societies must have disinterested governing bodies caring for the welfare and future of institutions such as universities. And, indeed, it is even possible that pursuing the objective and process of transformational change in these countries may, in turn, instruct higher education in the more developed West with its own difficulties.

The University: Does it Have a Future?

We begin with two assertions. The University is the second oldest institution with a continuous history in the Western World, the first being the Roman Catholic church and the third being the Parliament (Ting) in Iceland. The University is the powerhouse of modern society. We recognize the accuracy of these statements with some amazement since the importance of the university has so often been slighted.

Universities have educated leaders and advanced our basic knowledge of nature and society. Yet in history they have been vulnerable to external pressures when confronting the challenge of dynamic industrial democracies, let alone modern totalitarian states. Today, it remains clear that universities are at the center of society's attentions and consequently must balance many contradictory demands and pressures. Questions arise. Can this be done within the structure and ethos of an historic institution called a "university"? Is such an institution now dated and merely part of a bureaucratically managed higher education system?

Indeed the phrase higher education has come to suggest levels of bureaucratic and technocratic organization and coordination that the word university does not. Additional modifications of the meaning of university have resulted from the tendency for sub-fields and sub-disciplines to transcend single institution barriers and even national borders, thus diffusing institutional and collegial loyalties. As the guild or collegiate values of academic self-government disappear under current conditions, external professional and specialized networks become more important and congenial.

Moreover, to achieve the major goals of economic development, social mobility and quality, different ways of structuring and financing higher education have evolved. Faculty members have been increasingly unwilling to participate meaningfully in the duties of shared governance as a consequence of the slow disintegration of the professoriate as guild. The losses have been heavy for as a guild, professors have had sole control of entry into the profession, full internal self-governance, informal rules to govern individual behavior, control over life tenure,

maintenance of high status and authority over exit from the profession. The decline of the professoriate as guild has indirectly contributed also to the loss of the sense of campus community.

Substantial as these recent changes have been, it must be noted that the history of universities reveals a wide variety of institutions. One four fold classification begins with the *Napoleonic* university. Here we have strong influence by the state with a focus on teaching and the implication of a separate organization for research. The government appoints institutional leaders and the legislature rules regarding curricula. In the *Humboldtian* university academic freedom prevails. The concentration on research suggests the selflessness of science. Self-development is internal. Personal development, however, in the *Newman* university, is the central goal of activities. The college community dominates and tutoring is important for instruction purposes. Finally in this model is the *American* university in which service to the community is the apparent reason for existence. Openness is characteristic and the institution attempts to establish a balance between collective tasks and market orientation.

Policy analysts have constructed yet another model which carries us into the areas of forecast and future. This centers on research in which the phrase "student centered research university" has come into being wherein the entire university educates the student and transforms the balance between teaching and research across the campus. More grandiosely the title Research University in the 21st century has been coined which incorporates the premise that preparation for research and immersion in a research atmosphere are what universities are all about or should be about. Since universities are the centers of thought and thought creation, even professional and teacher training would exist in a research atmosphere. The historical shift, in this account, is from professional preparation (medieval universities), from *Bildung* (character development, colleges, Oxford, Cambridge) to research (methods and mode of inquiry) being pervasive in the university.

A third paradigm describes the evolution as being from university of faith (medieval) to university of reason (enlightenment) to university of discovery (19th and early 20th century) and finally to university of calculation (into the 21st century). The expectation is that the coming century will be knowledge-driven, particularly in the societies that are most technologically advanced. The optimistic slant is that the university will survive because the knowledge-driven society requires knowledge-trained talent in great quantity and the university is the existing institution intended to train and capable of training such talent.

The key question is what kind of university will this newly characterized university of calculation be. The answer depends on how it deals with such fundamental issues as to whether the university will be a place of learning, have a role in shaping the character of students (*Bildung*), keep the form of a community, and represent a set of values.

All these matters have to exist in the face of the fact that the public and politicians have come to consider the university basically as an economic investment that must bring an appropriate return.

Once, the university and society at large regarded learning as a good in itself. But the prognosticators believe that the present and future university of discovery and economic growth dividend and the university of calculation which consumes applied knowledge in unprecedented quantity and at incredible speed cannot maintain learning merely for the sake of learning since it has no time for looking at fundamentals. The necessity to train thousands of students in hundreds of specialties, each requiring massive support technology presumes a university of great size and the consequent likelihood of clusters of relatively small disciplinary communities rather than a single, all-embracing large community.

The emerging university of calculation will be a huge, expensive, highly functional as an economic investment in terms of training and ongoing innovation in science and technology. It will *not* be committed to learning *per se* nor to character development. This institution will house a convenient assembly of talents more like a market place of research and training than an intellectual community. The participants in its activities will not necessarily share any set of values beyond the economic pressure to produce well enough to be compensated. There will then be an institutional role for the university of calculation based on its own set of values in the public affairs of society.

Visionaries see the task of the university of calculation to be employing its vast augmentation of the human mind to re-integrate knowledge. However these days a university is often equated with a manufacturing enterprise and consequently, functions like a factory. Yet the knowledge society offers enough leisure and access to its members to permit learning for pleasure as well as for vocational purposes (adult/life-long education). And realistically it will be possible to recognize that the integrity of the university of calculation in the next century will depend on its re-commitment to the coherence of human knowledge and to learning beyond mere professional skills.

Universities will, nevertheless, continue to transform scientific knowledge into professional qualifications. Despite technological advance, universities will remain a place where society contemplates itself and its relationship to the world. Extramural research institutions and long distance study will supplement this core. Study in the future will be both part-time and full-time (as a sole concern) and universities will mediate research and training by means of study.

A danger to avoid is coupling mass education with only training and leaving the fields of basic research and scholarly study to small elite institutions. The system of employment, however, will determine the level that graduates should achieve. Universities will influence the labor market, develop their own instruments to

negotiate with and intervene in market processes. Science will, the sunnier analysts believe, create new fields of employment.

These forecasts differ from the conclusion of the most recent World Bank report which insists that higher education be correlated with economic development, pointing to the circumstance that polytechnics, short-cycle professional and technical institutes, community colleges and distance education and open learning programs are growing faster than universities. The imperatives in this report are to establish a coherent policy framework within which reliance is placed on incentive and market-oriented institutions to implement policies by more autonomous public institutions.

Funding, note the corporate phrasing, will be both input-based wherein a formula is established combining enrollment figures and unit costs to provide incentives for internal distribution of resources *and* output-based in which funds are allocated to institutions in line with their effectiveness in producing graduates.

Turning to perhaps the most influential analyst of higher education policy in the last three decades, one discovers a significant evolution from "guarded optimism" to "guarded pessimism". Clark Kerr targets the period 1997 to 2015 for prophecy, selecting 1997 as the year when higher education enrollment will be at its highest.

In this period the professoriate will face a scarcity of resources. The public will oppose professorial concerns and many states will choose between maintaining access and supporting research. The government will likely opt for access. Research will be increasingly financed by private funds. University presidents, he writes, will most often choose survival rather than leadership. The final confrontation will be over the soul or spirit of the university in which Hayek confronts Humboldt and in which private will be favored over public, applied polytechnic over pure and basic in research orientation and in which higher education will fare better in prosperous than in less prosperous states.

Kerr foresees more privatization, more cutbacks in federal and state funding and necessarily more attention to the long-term direction of the university. But it becomes clear that Kerr's primary, perhaps only concern, is for the fate of the research university as it moves from "federal grant university" to "private grant university". Even here he is fundamentally interested only in the fifteen or twenty universities of highest research reputation which guide and control the rest. The leading private institutions will not be affected; the public ones will be. The Reagan years brought greatly lowered taxes for the very wealthy and consequent large gifts for the private institutions in super-fund raising. The greatly increased income of the wealthy resulting from the Reagan redistribution of income enabled them to pay higher tuition whose rate of increase considerably outstripped the rate of inflation.

This agenda is distinctly different from the dominant one of the 1970's when comprehensiveness was the cry. "Transformational capacity", a pregnant phrase

then, described a process in which a vast variety of courses in one institution enabled students to choose subjects in keeping with developing labor market and manpower demands and to have greater flexibility in selecting length of course. Having both long and short-cycle higher education in one complex institution as in C.U.N.Y. enabled the comprehensive institution to respond both to the individual's identifiable education needs and to current market developments. The student could move between long and short course study.

The *Gesamthochschulen* (comprehensive higher education structures) established in Germany at this time were thought to demonstrate a particular way of solving problems common to all countries of the Western world: how to coordinate and to diversify higher education, how to insure orderly mobility between various courses and levels of study, how to avoid educational obstacles, how to eliminate a caste system among different types of institutions which made passage difficult from one to the other and which marked the graduates of each with life-long labels of excellence or mediocrity, how to insure continuing education and how to enable people to develop their abilities throughout their lives.

Again in this period appeared a prescient document with several cogent analyses - the October, 1974 report of the C.U.N.Y. Faculty Senate on the Educational Mission of C.U.N.Y. produced in an earlier crisis. Indeed these crises seem generational in that they come every twenty or twenty five years. The report begins with the pronouncement that any individual university may take upon itself a multiplicity of missions. But unless it has at its core the unique mission that defines a university *qua* university, it is not a university at all. For when a university abandons or belittles that central, defining mission, it does not merely become something else (a public service institution, a day-care center for adolescents and young adults, a remover of young people from the labor market). It becomes an artificial construct held together by the expediency of the moment and subject to disintegration as soon as it discovers that other kinds of organizations can better fulfill the function which it has assumed. And except for its core function which is uniquely its own, anyone or even all its functions can be discharged by other bodies. Even if it is urged that a university's central mission is to survive, it must be survival as a *university* that is the main concern - not just institutional continuity in the name and guise of a university without its animating core.

In formulating a statement of mission, one must consider the scale of the institution and the kind of higher education it represents. C.U.N.Y. constitutes a system of higher education rather than a single university. As such, C.U.N.Y. must have a variety of missions related to and inspired by a core educational mission that is its animating center. If it does not have a core mission, decisions will be taken solely by administrative authority responding only to external pressure and the imperative of service function.

Liberal education, it is emphasized, is the core mission of C.U.N.Y. - in one definition a sense of the mental cultivation befitting a fully realized human being regardless of any vocation. Liberal education is the necessary and enduring mission, not simply an emphasis on satisfying needs and desires, of students as consumer. Career training neither promoted nor repudiated must be put into proper perspective. The liberal core mission must be meshed with the manpower preparation mission. Theoretical quality must underpin professional and career programs to cope with the rapid change in techniques and approaches in society. The core mission must also incorporate intermittent and life-long learning with more conventional post-secondary learning.

The document concludes that master plans in C.U.N.Y. have been faulty because information has not been systematized or digested completely and data have proliferated beyond C.U.N.Y.'s capacity to assimilate them. Written twenty two years ago for a university of 260,000 students, the report echoes loudly in this era of sharp budget cuts and a considerably smaller student body of slightly more than 200,000.

Questions to address are what is C.U.N.Y. now? What should it be? What prevents or might prevent its being what it should or could be? Answers are difficult when centers of learning are now called by academic managers "profit-centers" and enterprises. Prevailing emphases on financing, efficiency and adversarial constituencies lead candidates for college/university presidencies to discuss their funding-raising abilities, their will to "downsize" and to eliminate faculty tenure, not their potential for academic and intellectual leadership, not their concept of mission. There is little talk of an academic community with roughly equal standing among its various constituents or for that matter of status or respect among the constituents or allegiance to institution whether individual college or federalized or integrated system.

Students too often are encouraged by administrators toward careerism and consumer post-secondary education rather than liberal education. Faculty are inclined to elevate discipline accountability and respect over dedication to university. University administrators are likely to view higher education solely as increasing human economic capital and to be submissive to external political pressure. Trustees rarely inform themselves fully on academic issues. Look at the recent discussion as to what has happened to liberal arts at C.U.N.Y., trustees and administrators have denied that liberal arts have been disproportionately cut and state that liberal arts are alive and well at C.U.N.Y.. Yet any C.U.N.Y. faculty veteran would note the following:

- (1) Enormous proliferation of career and technical/vocational programs in the last two decades - consequently the cut back of career/vocational programs has been far less in percentage than that for liberal arts.

- (2) There is minimal reference to who, how and according to what criteria decisions to eliminate programs were made.
- (3) The increasing downgrading of liberal arts departments to programs wherein liberal arts majors are eliminated (see John Jay College in the past and Baruch College in the present).
- (4) The loose definition of liberal arts since many technical programs designate courses as part of a liberal arts core which are clearly instrumental and vocational.
- (5) Most of all, lack of recognition by trustees board or administration that learning for learning's sake (liberal arts) has to have a key place in order to make a comprehensive university viable.

Moreover the Board and the Administration seem drawn to "networking" the current "trendy" word that describes the process of large multi-national firms transforming high wage, full-time, good benefits workers employed by core firms themselves into low wage, part-time, no benefits workers employed by their sub-contractors, either domestic or foreign. Hence increased networking yields a much more pronounced dual labor market and greater and greater income inequality.

Compare this to the "farming out" of remedial/compensatory work to community colleges (adjunct teaching mainly) and increased adjunct instruction in the four year colleges (at least 50%) with consequent lower wages, increased work load, decreased benefits cost etc. (academic networking). Supposedly there is a "high road" in networking wherein previous low wage, low benefit jobs are upgraded to skilled and well paid (cooperative relations between core firms and sub-contractors) and a "low road" in which large firms use their power to extract short-term profits from both sub-contractors and workers. For the university or higher education the "high road" translates into conversion of adjunct, hourly into full-time mission - relevant faculty positions and the "low road" leads to exploitation of hourly adjuncts for short term budget savings and long term harm to the fundamental objective of higher education. Realistically one sees not even a Frosteian option as to which road to take nor an opportunity to regret the road not taken.

The nine hundred years history of universities has included many kinds of institutions with different missions. And there has not been in that history a special moment when one can exclaim *Eureka*, the new university and its new mission are at hand. Only in retrospect can we set up categories or models. At present we can note deep changes, heavy pressures and competitive social institutions and we can answer our title question - the university will survive, but in a different form.

It will do so only if the academic community attains a kind of consensus - the sort of consensus that Sweden managed in its sharp changes of higher education in 1968, 1977 and 1994. At least 200 representatives of all constituencies had the

opportunity of modifying draft proposals coming from policy makers and planners. Incorporating their commentary, the final draft of the proposed changes, having undergone so many critiques could and did survive any political changes or social pressures. The conclusion then to these remarks is that the concepts of commitment, mission and consensus will have to prevail in the future academic community, if it is to have a future.

References

- American Council of Education Report*, Washington. D.C. 1984
- Atwell, R. (1989) *The Professional Representation of Universities, Lobbying and Professional Associations*. Conference on Government Intervention and Universities. Germany, University of Oldenburg
- Atwell, R. (1992) „The Professional Representation of Universities, Lobbying and Professional Associations“ in Daxner, M. and Smith, H (eds.) *Relationship Between the State and University*, Oldenburg: University of Oldenburg Press pp. 21-31
- Ball, C. (1992) „Teaching and Research“ in Whiston, T. and Geiger, R. (eds.) *Research and Higher Education*, Milton Keynes (UK): Open University Press pp.130-137
- Becher, T. (1994) „Perspectives in Academic Life“ *Higher Education in Europe XVI*(3), pp. 119-136
- Birnbaum, R. (1993) *Maintaining Diversity in Higher Education*, Jossey Bass Publishers
- Clark, B. (1983) „Governing the Higher Education System“ in Shattock, M (ed.) *The Structure and Governance of Higher Education*, Builford, Surrey: Society for Research into Higher Education
- Clark, B. (1983) *The Higher Education System: Academic Organization in Crisis. National Perspective*, Berkeley: University of California Press
- Clark, B. (1984) (ed.) *Perspectives in Higher Education*, Berkeley: University of California Press
- Clark, B. (1985 a) „Introduction“ in Clark, B. (ed.) *The School and the University. An International Perspective*. Berkeley: University of California Press.
- Clark, B. (1985 b) „Conclusions“ in Clark, B. (ed.) *The School and the University. An International Perspective*. Berkeley: University of California Press.
- Clark, B. (1985) (ed.) *The School and University: an International Perspective*, Berkeley: University of California Press
- CRE-Action (1977) *A European Agenda for Change for Higher Education in the XXI Century* no 111
- Digest of Educational Statistics 1989* - Washington, D.C.: National Center for Educational Statistics
- Dougherty, K. (1994) *The Contradictory College - The Conflict in Origins, Impacts and Future of the Community College*, Albany: S.U.N.Y. Press
- Elton, L. (1992) „Research, Training and Scholarship in an Expanding Higher Education System“ *Higher Education Quarterly* 42(2) pp. 152-208

- Fulton, O. (1989) (ed.) *Access and Institutional Change*, Milton Keynes: Open University Press
- Gellert, C. (1991) „Higher Education: Changing Tasks and Definitions“ *Higher Education in Europe* XVI(3) pp. 28-45
- Gellert, C. (1993) (ed.) *Higher Education in Europe*, London: Jessica Kingsley Publishers
- Goedegebuure, L., Kaiser, F., Maassen, P., van Vught, F., de Weert, E. (1994) (eds.) *Higher Education Policy. An International Perspective*, Oxford: Pergamon Press
- Goedegebuure, L. (1992) *Mergers in Higher Education*. Utrecht: CHEPS
- Hawkins, H. (1924) „University Identity: The Teaching and Research Functions“ in Oleson, A. and Vess, J. (eds.) *The Organization of Knowledge in Modern America 1860-1920*, pp. 285-312
- Herbst, M. Latzel, G. and Lutz, L. (1992) eds. *Wandel im Tertiären Bildungssektor*, Zürich; vdf
- Hermanns, H., Teichler, U. and Wasser, H. (1983) (eds.) *The Compleat University* Cambridge Ma.: Schenkman Publishers
- Holmes Group (1986). *Tomorrow's teachers*, East Lansing, MI.
- Kerr, C. (1982). *The Uses of the University* (3rd rev. ed.). Cambridge, MA: Harvard University Press.
- Kerr, C. (1990) „The American Mixture of Higher Education in Perspective“ *Higher Education* 19 (1), pp. 1-19
- Kerr, C. (1995) *The Uses of the University* 4th revised edition, Berkeley: University of California Press
- Kwiatkowski, S. (1980) „Research and Higher Education Trends and Problems“ *European Journal of Education* 15 (3) pp. 355-360
- Lane, J.-E. and Frederickson, B. (1983) *Higher Education and Public Administration*, Stockholm: Almqvist and Wickstell Publishers
- Levine, A. (1993) *Higher Learning in America 1980-2000*, Philadelphia
- Maassen, P.A.M. and van Vught, F. A. (1989) *Dutch Higher Education in Transition*, The Hague
- Martin, T. (1987). American Higher Education: Past, Present and Future. In Lapidus, G.W. and Swanson, G.E. (eds.) *Social Welfare and the Social Service USA/USSR*. Berkeley: University of California Press.
- Mayor, F. (1992) „University Autonomy“ *Higher Education Policy* 15 (9) pp. 58-60
- Mayor, F. (1992) Director General UNESCO *Higher Education Policy*, pp. 58-60

- Middlehurst, R. (1988) „Management and Leadership Development“ in Eggins, H. (ed.) *Restructuring Higher Education*, Milton Keynes: Open University Press, pp. 137-150
- Moses, I. (1994) „Teaching and Research in Colleges and Universities: A Comparison Between Australia and Germany“ *Higher Education Policy* 7 (2) pp. 33-35
- Mueller, S. (1996) (ed.) *Universities in the Twenty-First Century*, Providence: RI Berghahn Books
- Neave, G. (1985) „France“ in Clark, B. (ed.) *The Schools and the University. An International Perspective*. Berkeley: University of California Press.
- Neave, G. (1988) „On Being Economical with University Autonomy“ in Tight, M. (ed.) *American Freedom and Responsibility* Milton Keynes: Open University Press 31-48
- O.E.C.D. (1984) *Industry and University*, Paris
- O.E.C.D. (1989) *Proceedings of 2nd I.C.H.E. Conference* Ankara Turkey
- O.E.C.D. (1991) *Alternatives to Universities*, Paris
- O.E.C.D. (1991) *Education at a Glance*, Paris
- Picken, R. and Wasser, H. (1996) „Changing Circumstances in Funding Public Universities: A Comparative View“ *10th I.C.H.E. Conference Paper* Ankara Turkey
- Premfors, R. (1989) „Vitality of the Basic Unit in Universities“ *Higher Education in Europe* XIV(3) pp. 8-20
- Ratcliff, J. (1996) „A Rationale for a Differentiated System of Higher Education“ *Tertiary Education and Management* 2(6) pp. 127-137
- Rothblatt, S. and Wittrock, B. (1993) (eds.) *The European and American University since 1800*, Cambridge
- Schuller, T. (1998) (ed.) *The Changing University*, Milton Keynes: Open University Press
- Scott, P. (1983) „The State of the Academic Profession in Britain“ *European Journal of Education* 18(3) pp. 245-257
- Sizer, J. (1988) „The Management of Institutions“ in Eggins, H. (ed.) *Restructuring Higher Education*, Milton Keynes: Open University Press pp. 80-92
- Sommer, L. (1995) (ed.) *The Academy in Crisis*, New Brunswick, N.J.: Transaction Press
- Svensson, L. (1987) *Higher Education and the State in Swedish History*, Stockholm: Almqvist and Wicksell Publishers
- Taylor, K.C. (1993) „The Role of Scholarship in University Thinking“ *Canadian Journal of Higher Education* 26(3) pp. 64-67

- Teichler, U. (1988) *Changing Patterns of the Higher Education System: The Experience of Three Decades*, London: Jessica Kingsley Publishers
- Teichler, U. (1998) "Massification: A Challenge for Institutions of Higher Education" *Tertiary Education and Management* 4(1) pp. 19-27
- Teichler, U. and Wasser, H. (1992) (eds.) *German and American Universities: Mutual Influences - Past and Present* Kassel: Wissenschaftliches Zentrum für Berufs- und Hochschulforschung der Universität Gesamthochschule Kassel
- Teichler, U., Hartung, D., Nuthmann, R. (1980) *Higher Education and the Needs of Society*, NFER Windsor Publishing
- Tight, M. (1988) „So What is Academic Freedom“ in Tight, M. (ed.) *Academic Freedom and Responsibility*, Milton Keynes: Open University Press pp. 114-132
- Vught, F. van (1989) „Innovations and Reforms in Higher Education“ in Vught F. van (ed.) *Governmental Strategies and Innovation in Higher Education*, London pp. 47-72
- Wasser, H. (1980) "University Presidents, Vice Chancellors and Rectors in Europe and USA Compared" *Higher Education in Europe XVI*(1) pp.80-86
- Wasser, H. (1988) "Changing Relations Between Universities and Research Policy and Industry" *History of European Ideas II*(1) pp. 653-659
- Wasser, H. (1989) ed. *The Functions and Problems of the Urban University* Essays by M. Kogan, G. Neave, R. Premfors and U. Teichler, New York: CUNY Richmond College-Press
- Wasser, H. (1992) "Innovations in Universities: Autonomy/Accountability" in Daxner, M. and Smith, H. (eds.) *Relationships Between the State and University*, Oldenburg: University of Oldenburg Press
- Williams, G. (1992) *Changing Patterns of Financing in Higher Education*, Open University Press
- Williams, G. (1994) "Editorial" *Higher Education Quarterly*, 48, 1, January
- Wittrock, B. and Elzinga, A. (1985) (eds.) *The University Research System*, Stockholm Almqvist and Wicksell Publishers
- Wright, P. (1990) *Industry and Higher Education*, Milton Keynes: Open University Press

PUBLICATIONS OF THE CENTER FOR RESEARCH ON HIGHER EDUCATION AND WORK

A. Series "Hochschule und Beruf"

(published by Campus-Verlag, Frankfurt/M. and New York)

- TEICHLER, Ulrich and WINKLER, Helmut (eds.): Praxisorientierung des Studiums. Frankfurt/M. and New York 1979 (out of print).
- TEICHLER, Ulrich (ed.): Hochschule und Beruf. Problemlagen und Aufgaben der Forschung. Frankfurt/M. and New York 1979 (out of print).
- BRINCKMANN, Hans; HACKFORTH, Susanne and TEICHLER, Ulrich: Die neuen Beamtenhochschulen. Bildungs-, verwaltungs- und arbeitsmarktpolitische Probleme einer verspäteten Reform. Frankfurt/M. and New York 1980.
- FREIDANK, Gabriele; NEUSEL, Aylâ; TEICHLER, Ulrich (eds.): Praxisorientierung als institutionelles Problem der Hochschule. Frankfurt/M. and New York 1980.
- CERYCH, Ladislav; NEUSEL, Aylâ; TEICHLER, Ulrich and WINKLER, Helmut: Gesamthochschule - Erfahrungen, Hemmnisse, Zielwandel. Frankfurt/M. and New York 1981.
- HERMANNNS, Harry; TEICHLER, Ulrich and WASSER, Henry (eds.): Integrierte Hochschulmodelle. Erfahrungen aus drei Ländern. Frankfurt/M. and New York 1982.
- HOLTKAMP, Rolf and TEICHLER, Ulrich (eds.): Berufstätigkeit von Hochschulabsolventen - Forschungsergebnisse und Folgerungen für das Studium. Frankfurt/M. and New York 1983 (out of print).
- HERMANNNS, Harry; TKOCZ, Christian and WINKLER, Helmut: Berufsverlauf von Ingenieuren. Eine biografie-analytische Untersuchung auf der Basis narrativer Interviews. Frankfurt/M. and New York 1983.
- CLEMENS, Bärbel; METZ-GÖCKEL, Sigrid; NEUSEL, Aylâ and PORT, Barbara (eds.): Töchter der Alma Mater. Frauen in der Berufs- und Hochschulforschung. Frankfurt/M. and New York 1986.
- GORZKA, Gabriele; HEIPCKE, Klaus and TEICHLER, Ulrich (eds.): Hochschule - Beruf - Gesellschaft. Ergebnisse der Forschung zum Funktionswandel der Hochschulen. Frankfurt/M. and New York 1988.
- OEHLER, Christoph: Hochschulentwicklung in der Bundesrepublik seit 1945. Frankfurt/M. and New York 1989.

TEICHLER, Ulrich: Europäische Hochschulsysteme. Die Beharrlichkeit vielfältiger Modelle. Frankfurt/M. and New York 1990.

BECKMEIER, Carola and NEUSEL, Aylâ: Entscheidungsverflechtung an Hochschulen - Determinanten der Entscheidungsfindung an deutschen und französischen Hochschulen. Frankfurt/M. and New York 1991.

EKARDT, Hanns-Peter, Löffler, Reiner and Hengstenberg, Heike: Arbeitssituationen von Firmenbauleitern. Frankfurt/M. and New York 1992.

NEUSEL, Aylâ; TEICHLER, Ulrich and WINKLER, Helmut (eds.): Hochschule - Staat - Gesellschaft. Christoph Oehler zum 65. Geburtstag. Frankfurt/M. and New York 1993.

FUCHS, Marek: Forschungsorganisation an Hochschulinstituten. Der Fall Maschinenbau. Frankfurt/M. and New York 1994.

ENDERS, Jürgen: Die wissenschaftlichen Mitarbeiter. Ausbildung, Beschäftigung und Karriere der Nachwuchswissenschaftler und Mittelbauangehörigen an den Universitäten. Frankfurt/M. and New York 1996.

TEICHLER, Ulrich, DANIEL, Hans-Dieter and ENDERS, Jürgen (eds.): Brennpunkt Hochschule. Neuere Analysen zu Hochschule, Politik und Gesellschaft. Frankfurt/M. and New York 1998.

B. Series "Werkstattberichte"

(available at Jenior & Preßler Publishers, Lassallestr. 15, D-34119 Kassel, Tel.: 49-561-17655, Fax: 49-561-774148)

HERMANN, Harry; TKOCZ, Christian and WINKLER, Helmut: Soziale Handlungskompetenz von Ingenieuren, Rückblick auf Verlauf und Ergebnisse der Klausurtagung in Hofgeismar am 16. und 17. November 1978. 1979 (No. 1).

HERMANN, Harry; TKOCZ, Christian and WINKLER, Helmut: Ingenieurarbeit: Soziales Handeln oder disziplinäre Routine? 1980 (No. 2) (out of print).

NEUSEL, Aylâ and TEICHLER, Ulrich (eds.): Neue Aufgaben der Hochschulen. 1980 (No. 3) (out of print).

HEINE, Uwe; TEICHLER, Ulrich and WOLLENWEBER, Bernd: Perspektiven der Hochschulentwicklung in Bremen. 1980 (No. 4) (out of print).

NERAD, Maresi: Frauenzentren an amerikanischen Hochschulen. 1981 (No. 5).

LIEBAU, Eckart and TEICHLER, Ulrich (eds.): Hochschule und Beruf - Forschungsperspektiven. 1981 (No. 6) (out of print).

EBHARDT, Heike and HEIPCKE, Klaus: Prüfung und Studium. Teil A: Über den Zusammenhang von Studien- und Prüfungserfahrungen. 1981 (No. 7).

HOLTKAMP, Rolf and TEICHLER, Ulrich: Außerschulische Tätigkeitsbereiche für Absolventen sprach- und literaturwissenschaftlicher Studiengänge. 1981 (No. 8) (out of print).

RATTEMMEYER, Volker: Chancen und Probleme von Arbeitsmaterialien in der künstlerischen Aus- und Weiterbildung. Mit Beiträgen von Hilmar Liptow and Wolfram Schmidt. Kassel 1982 (No. 9).

CLEMENS, Bärbel: Frauenforschungs- und Frauenstudieninitiativen in der Bundesrepublik Deutschland. Kassel 1983 (No. 10) (out of print).

DANCKWORTT, Dieter: Auslandsstudium als Gegenstand der Forschung - eine Literaturübersicht. Kassel 1984 (No. 11).

BUTTGEREIT, Michael and TEICHLER, Ulrich (eds.): Probleme der Hochschulplanung in der Sowjetunion. Kassel 1984 (No. 12).

Wissenschaftliches Zentrum für Berufs- und Hochschulforschung (ed.): Forschung über Hochschule und Beruf. Arbeitsbericht 1978 - 1984. Kassel 1985 (No. 13).

DALICHOW, Fritz and TEICHLER, Ulrich: Anerkennung des Auslandsstudiums in der Europäischen Gemeinschaft. Kassel 1985 (No. 14).

HORNBOSTEL, Stefan; OEHLER, Christoph and TEICHLER, Ulrich (eds.): Hochschulsysteme und Hochschulplanung in westlichen Industriestaaten. Kassel 1986 (No. 15).

TEICHLER, Ulrich: Higher Education in the Federal Republic of Germany. Developments and Recent Issues. New York and Kassel: Center for European Studies, Graduate School and University Center of the City University of New York and Wissenschaftliches Zentrum für Berufs- und Hochschulforschung, Gesamthochschule Kassel. New York/Kassel 1986 (No. 16).

KLUGE, Norbert and OEHLER, Christoph: Hochschulen und Forschungstransfer. Bedingungen, Konfigurationen und Handlungsmuster. Kassel 1986 (No. 17) (out of print).

BUTTGEREIT, Michael: Lebensverlauf und Biografie. Kassel 1987 (No. 18).

EKARDT, Hanns-Peter and LÖFFLER, Reiner (eds.): Die gesellschaftliche Verantwortung der Bauingenieure. 3. Kasseler Kolloquium zu Problemen des Bauingenieurberufs. Kassel 1988 (No. 19).

TEICHLER, Ulrich: Wandel der Hochschulstrukturen im internationalen Vergleich. Kassel 1988 (No. 20) (out of print).

KLUCZYNSKI, Jan and OEHLER, Christoph (eds.): Hochschulen und Wissenstransfer in verschiedenen Gesellschaftssystemen. Ergebnisse eines polnisch-deutschen Symposiums. Kassel 1988 (No. 21).

KRÜGER, Heidemarie: Aspekte des Frauenstudiums an bundesdeutschen Hochschulen. Zur Studiensituation von Frauen im Sozialwesen und in den Wirtschaftswissenschaften - ausgewählte Ergebnisse einer empirischen Untersuchung. Kassel 1989 (No. 22) (out of print).

KRAUSHAAR, Kurt and OEHLER, Christoph: Forschungstransfer, betriebliche Innovationen und Ingenieurarbeit. Kassel 1989 (No. 23) (out of print).

STRÜBING, Jörg: "Technik, das ist das Koordinatensystem, in dem wir leben..." - Fallstudien zu Handlungsorientierungen im technikwissenschaftlichen Forschungstransfer. Kassel 1989 (No. 24).

GORZKA, Gabriele; MESSNER, Rudolf and OEHLER, Christoph (eds.): Wozu noch Bildung? - Beiträge aus einem unerledigten Thema der Hochschulforschung. Kassel 1990 (No. 25) (out of print).

ENDERS, Jürgen: Beschäftigungssituation im akademischen Mittelbau. Kassel 1990 (No. 26) (out of print).

WETTERER, Angelika: Frauen und Frauenforschung in der bundesdeutschen Soziologie - Ergebnisse der Soziologinnen-Enquête. Kassel 1990 (No. 27) (out of print).

TEICHLER, Ulrich: The First Years of Study at Fachhochschulen and Universities in the Federal Republic of Germany. Kassel 1990 (No. 28) (out of print).

TEICHLER, Ulrich: Recognition. A Typological Overview of Recognition Issues Arising in Temporary Study Abroad. Kassel 1990 (No. 29).

SCHOMBURG, Harald, TEICHLER, Ulrich and WINKLER, Helmut: Studium und Beruf von Empfängern deutscher Stipendien am Asian Institute of Technology. Kassel 1991 (No. 30).

JESKE-MÜLLER, Birgit, OVER, Albert and REICHERT, Christoph: Existenzgründungen in Entwicklungsländern. Literaturstudie zu einem deutschen Förderprogramm. 1991 (No. 31).

TEICHLER, Ulrich: Experiences of ERASMUS Students. Select Findings of the 1988/89 Survey. 1991 (No. 32).

BECKMEIER, Carola and NEUSEL, Aylá: Entscheidungsprozesse an Hochschulen als Forschungsthema. 1992 (No. 33).

STRÜBING, Jörg: Arbeitsstil und Habitus - zur Bedeutung kultureller Phänomene in der Programmierarbeit. Kassel 1992 (No. 34).

BECKMEIER, Carola and NEUSEL, Ayâ: Leitungsstrategien und Selbstverständnis von Hochschulpräsidenten und -rektoren. Eine Pilotstudie an zehn ausgewählten Hochschulen. Kassel 1992 (No. 35).

TEICHLER, Ulrich and WASSER, Henry (eds.): American and German Universities: Mutual Influences in Past and Present. Kassel 1992 (No. 36)

MAIWORM, Friedhelm; STEUBE, Wolfgang and TEICHLER, Ulrich: ECTS in its Year of Inauguration: The View of the Students. Kassel 1992 (No. 37).

OVER, Albert: Studium und Berufskarrieren von Absolventen des Studienganges Berufsbezogene Fremdsprachenausbildung an der Gesamthochschule Kassel. Kassel 1992 (No. 38).

MAIWORM, Friedhelm; STEUBE, Wolfgang and TEICHLER, Ulrich: ECTS dans l'Année de son Lancement: Le Regard des Etudiants. Kassel 1992 (No. 39).

WINKLER, Helmut (ed.): Qualität der Hochschulausbildung. Verlauf und Ergebnisse eines Kolloquiums an der Gesamthochschule Kassel. Kassel 1993 (No. 40).

MAIWORM, Friedhelm; STEUBE, Wolfgang and TEICHLER, Ulrich: ERASMUS Student Mobility Programmes 1989/90 in the View of Their Coordinators. Select Findings of the ICP Coordinators' Reports. Kassel 1993 (No. 41) (out of print).

MAIWORM, Friedhelm; STEUBE, Wolfgang and TEICHLER, Ulrich: Les Programmes ERASMUS en Matière de Mobilité des Etudiants au Cours de l'Année 1989/90. Analyse présentée à partir des points de vue des coordinateurs. Kassel 1993 (No. 41a).

MAIWORM, Friedhelm; STEUBE, Wolfgang and TEICHLER, Ulrich: Experiences of ERASMUS Students 1990/91. Kassel 1993 (No. 42) (out of print).

MAIWORM, Friedhelm; STEUBE, Wolfgang and TEICHLER, Ulrich: Les expériences des étudiants ERASMUS en 1990/91. Kassel 1993 (No. 42a).

OVER, Albert and TKOCZ, Christian: Außeruniversitäre Forschungseinrichtungen in den neuen Bundesländern. Zu den Empfehlungen des Wissenschaftsrates. Kassel 1993 (No. 43).

FUCHS, Marek and OEHLER, Christoph: Organisation und Effizienz von Forschungsinstituten. Fallstudien zu technikwissenschaftlicher Forschung an westdeutschen Hochschulen. Kassel 1994 (No. 44).

WINKLER, Helmut (ed.): Kriterien, Prozesse und Ergebnisse guter Hochschulausbildung. Dokumentation eines Kolloquiums an der Universität Gesamthochschule Kassel. Kassel 1994 (No. 45).

MAIWORM, Friedhelm and TEICHLER, Ulrich: ERASMUS Student Mobility Programmes 1991/92 in the View of the Local Directors. Kassel 1995 (No. 46).

MAIWORM, Friedhelm and TEICHLER, Ulrich: The First Years of ECTS in the View of the Students. Kassel 1995 (No. 47).

OEHLER, Christoph und SOLLE, Christian: Die Lehrgestalt der Soziologie in anderen Studiengängen. Kassel 1995 (No. 48).

MAIWORM, Friedhelm; SOSA, Winnetou and TEICHLER, Ulrich: The Context of ERASMUS: a Survey of Institutional Management and Infrastructure in Support of Mobility and Co-operation. Kassel 1996 (No. 49).

KEHM, Barbara M. and TEICHLER, Ulrich (eds.): Vergleichende Hochschulforschung. Eine Zwischenbilanz. Kassel 1996 (No. 50).

KEHM, Barbara M.: Die Beteiligung von Frauen an Förderprogrammen der Europäischen Union im Bildungsbereich. Kassel 1996 (No. 51).

TEICHLER, Ulrich: Higher Education and Graduate Employment in Europe. Select Findings from Previous Decades. Kassel 1997 (No. 52).

KREITZ, Robert and TEICHLER, Ulrich: Teaching Staff Mobility. The 1990/91 Teachers' View. Kassel 1998 (No. 53).

SCHRÖDER, Manuela and DANIEL, Hans-Dieter together with Karin Thielecke: Studienabbruch. Eine annotierte Bibliographie. Kassel 1998 (No. 54).

BARBLAN, Andris, KEHM, Barbara M., REICHERT, Sybille and TEICHLER, Ulrich (eds.): Emerging European Policy Profiles of Higher Education Institutions. Kassel 1998 (No. 55)

C. Series "Arbeitspapiere"

(Published by: Wissenschaftliches Zentrum für Berufs- und Hochschulforschung, Universität Gesamthochschule Kassel)

TEICHLER, Ulrich and WINKLER, Helmut: Vorüberlegungen zur Gründung des Wissenschaftlichen Zentrums für Berufs- und Hochschulforschung. 1978 (No. 1).

TEICHLER, Ulrich: Der Wandel der Beziehungen von Bildungs- und Beschäftigungssystem und die Entwicklung der beruflich-sozialen Lebensperspektiven Jugendlicher. 1978 (No. 2).

TEICHLER, Ulrich: Higher Education and Employment in the Federal Republic of Germany: Trends and Changing Research Approaches from the Comparative Point of View. - Recherches en cours sur le problème de l'enseignement supérieure et de l'emploi en République Fédérale Allemande. 1978 (No. 3) (out of print).

PEIFFER, Knut: Untersuchung des Implementationsinstrumentariums von Hochschulreformprogrammen anhand einer synoptischen Darstellung. - Untersuchung der legislativen Umsetzung von Hochschulreform- und Studienreforminhalten anhand des HRG, des HHG und des HUG. 1979 (No. 4).

NEUSEL, Aylâ: Zu Berufstätigkeit und Studium von Architekten/Planern.
WINKLER, Helmut: Neue Entwicklungen im Berufsfeld von Architekten und Bauingenieuren und deren Berücksichtigung in der Hochschulausbildung. 1979 (No. 5).

TEICHLER, Ulrich and VOSS, Friedrich: Materialien zur Arbeitsmarktlage von Hochschulabsolventen. 1979 (No. 6) (out of print).

RATTEMeyer, Volker: Weiterentwicklung des Kunststudiums unter Berücksichtigung der beruflichen Möglichkeiten der Künstler. 1980 (No. 7).

TEICHLER, Ulrich: Work-Study-Programs: The Case of "Berufspraktische Studien" at the Comprehensive University of Kassel. 1981 (No. 8) (out of print).

HERMANN, Harry: Das narrative Interview in berufsbiografischen Untersuchungen. 1981 (No. 9) (out of print).

DENKINGER, Joachim and KLUGE, Norbert: Bibliographie zur Praxisorientierung des Studiums. 1981 (No. 10).

LIEBAU, Eckart: Hochschule, Schule und Lehrerfortbildung - Tendenzen und Perspektiven. 1981 (No. 11).

LIEBAU, Eckart: Der Habitus der Ökonomen. Über Arbeitgebererwartungen an Hochschulabsolventen der Wirtschaftswissenschaften. Kassel 1982 (No. 12) (out of print).

WINKLER, Helmut: Interaction of Theory and Practice in the US Engineering Education. Kassel 1982 (No. 13).

HERMANN, Harry: Statuspassagen von Hochschullehrern im Entwicklungsprozeß von Gesamthochschulen. Kassel 1982 (No. 14).

KRÜGER, Heidemarie: Probleme studierender Frauen - Ergebnisse eines Kolloquiums. Kassel 1984 (No. 15) (out of print).

USHIOGI, Morikazu: Job Perspectives of College Graduates in Japan. Kassel 1984 (No. 16).

NERAD, Maresi: Implementation Analysis - A New Magic Tool for Research in Higher Education? Kassel 1984 (No. 17).

KLUGE, Norbert: Studienreform in der Literatur - Eine kommentierte Bibliographie über Studienreformaktivitäten in den letzten zehn Jahren. Kassel 1988 (No. 18).

WINKLER, Helmut: Ursachen für überlange Studiendauern von Maschinenbaustudenten. Sonderauswertung von Daten der Kasseler Absolventenstudie. Kassel 1988 (No. 19).

SCHMUTZER, Manfred E. A.: Vom Elfenbeinturm zum Bildungskonzern. Kassel 1989 (No. 20). (out of print)

MAIWORM, Friedhelm: Zur Notenvergabe an hessischen Hochschulen im Vergleich zum Bundesdurchschnitt. Kassel 1989 (No. 21).

BECKER, Peter: Motive der Studienortwahl und Informationsverhalten von Studienanfängern der Gesamthochschule Kassel im Wintersemester 1987/88. Kassel 1990 (No. 22).

OEHLER, Christoph: Effizienz der Drittmittelförderung in den Ingenieurwissenschaften. Kassel 1990 (No. 23).

TEICHLER, Ulrich; MAIWORM, Friedhelm and STEUBE, Wolfgang: Student Mobility within ERASMUS 1987/88 - a Statistical Survey. Kassel 1990 (No. 24).

OEHLER, Christoph and SOLLE, Christian: Soziologie als Lehrfach in anderen Studiengängen - Ergebnisse einer Dokumentenanalyse. Kassel 1993 (No. 25).

TEICHLER, Ulrich; KREITZ, Robert and MAIWORM, Friedhelm: Student Mobility within ERASMUS 1988/89 - a Statistical Profile. Kassel 1991 (No. 26).

WINKLER, Helmut: Sprachkompetenz von Europa-Ingenieuren. Synergieeffekte im Rahmen internationaler Kooperation. Kassel 1993 (No. 27).

TEICHLER, Ulrich; KREITZ, Robert and MAIWORM, Friedhelm: Student Mobility within ERASMUS 1989/90. Kassel 1993 (No. 28).

HAHN, Bärbel: Studentische Politik für eine Gesamthochschule Kassel. Kassel 1994 (No. 29).

WINKLER, Helmut: Erfahrungen mit integrierten Studiengängen an der Universität Gesamthochschule Kassel. Ein Beitrag zur Diskussion um differenzierte Studiengangstrukturen an Universitäten. Kassel 1994 (No. 30).

BECKMEIER, Carola: Verwaltungs- und Gremienstrukturen an staatlichen Hochschulen in den USA. Kassel 1994 (No. 31).

NERAD, Maresi: Postgraduale Qualifizierung und Studienstrukturreform. Untersuchung ausgewählter Graduiertenkollegs in Hessen im Vergleich mit dem Promotionsstudium in den USA. Kassel 1994 (No. 32) (out of print).

KEHM, Barbara M.: Durchführung von EG-Bildungsprogrammen in der Bundesrepublik Deutschland. Materialien. Kassel 1994 (No. 33).

BICHLER, Hans and SCHOMBURG, Harald: Agrarwirte in Studium und Beruf. Ergebnisse einer Befragung der Absolventinnen und Absolventen des Integrierten Diplomstudienganges Agrarwirtschaft in Witzenhausen. Kassel 1997 (No. 34).