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# Entrepreneurial Pathways of University Transformation

Explanation of how five universities in five different European settings went about changing their character to become more adaptive institutions requires that we acknowledge the individuality of institutional development. Accordingly, the five central chapters organize descriptive materials as case studies in which an understanding of each institution's setting and historic character is seen as necessary for understanding whatever transformation has taken place or is in process. Each account includes what is significantly unique and peculiar and the role played by particular individuals. The integrated case reports assert the special character of each of the universities that compose the empirical base of the study. They portray singular local flavor.

But, as stressed in the introduction, the separate stories are not the commanding interest. Common elements found in the case studies allow us to push beyond unique histories. Together they strongly suggest how universities that have willed themselves to change differ systematically from those that remain entirely encapsulated in a traditional mode. This chapter briefly sets forth these major features.

## **The Concept of Entrepreneurial University**

“Entrepreneurial” is taken in this study as a characteristic of social systems; that is, of entire universities and their internal departments, research centers,

#### 4 Entrepreneurial Pathways of University Transformation

faculties, and schools. The concept carries the overtones of “enterprise” – a willful effort in institution-building that requires much special activity and energy. Taking risks when initiating new practices whose outcome is in doubt is a major factor. An entrepreneurial university, on its own, actively seeks to innovate in how it goes about its business. It seeks to work out a substantial shift in organizational character so as to arrive at a more promising posture for the future. Entrepreneurial universities seek to become “stand-up” universities that are significant actors on their own terms. Institutional entrepreneurship can be seen as both process and outcome.

Throughout much of the two years and more of the research, the two terms “entrepreneurial” and “innovative” were used as loosely synonymous. The concept of “innovative university” has much appeal. Gentler in overtone, it also casts a wider net. It avoids the negative connotations that many academics attach to individual entrepreneurs as aggressive business-oriented people seeking to maximize profit. When the institutions in this study, together with a few other universities, established a new all-Europe voluntary association of highly limited membership in 1996, they had good reason to name it “The European Consortium of Innovative Universities.” But I have chosen “entrepreneurial” over “innovative” as the organizing conception for this book because it points more powerfully to deliberate local effort, to actions that lead to change in organizational posture. Under its banner I can more appropriately group some processes by which modern universities measurably change themselves.

University transformation, for the most part, is not accidental or incidental. It does not happen because several innovative programs are established here and there within a university: the new approaches can be readily sealed off as minor enclaves. It does not happen because a solitary entrepreneur captures power and runs everything from the top-down: such cases are exceptions to the rule. Universities are too bottom-heavy, too resistant from the bottom-up, for tycoons to dominate very long. Rather, transformation occurs when a number of individuals come together in university basic units and across a university over a number of years to change, by means of organized initiative, how the institution is structured and oriented. *Collective* entrepreneurial action at these levels is at the heart of the transformation phenomenon. Acting from on-high, national and state systems of higher education are blunt instruments of significant change; acting from below, individual faculty members or administrators are limited in what they can do. But groups, large and small – central and departmental – of faculty and administrators (and sometimes students!) can fashion new structures, processes, and orientations whereby a university becomes biased toward adaptive change. Academic groups can also help insure that *academic* values will guide transformation, a point that will appear repeatedly in the institutional narratives. Effective collective entrepreneurship does not carry a university beyond the boundaries of academic legitimacy, setting off a down-market cycle of reputation, resources,

and development. Rather, it can provide resources and infrastructures that build capability beyond what a university would otherwise have, thereby allowing it to subsidize and enact an up-market climb in quality and reputation.

A formal grant of autonomy from patron to institution does not guarantee active self-determination; autonomous universities may be passive institutions. They may live for the past rather than look to the future. They may be satisfied with what they have become and do not wish for more. By informal agreement they may have decided to move in lockstep with counterpart institutions in their region or country, together to sink or swim. They are then biased toward standing still. Autonomous universities become active institutions when they decide they must explore and experiment with changes in how they are composed and how they react to internal and external demands. They sense that in fast-moving times the prudent course of action is to be out in front, shaping the impact of demands made upon them, steering instead of drifting. It is then that they need new organizational elements that together characterize the entrepreneurial university.

### **Pathways of Transformation**

How do universities, by means of entrepreneurial action, go about transforming themselves? Five elements constitute an irreducible minimum: a strengthened steering core; an expanded developmental periphery; a diversified funding base; a stimulated academic heartland; and an integrated entrepreneurial culture.

#### ***The strengthened steering core***

Traditional European universities have long exhibited a notoriously weak capacity to steer themselves. As their complexity has increased and the pace of change accelerated, that weakness has become more debilitating, deepening the need for a greater managerial capacity. Unambitious universities can ignore this need and drift with the tides of traditional patronage. Universities that serve as flagships or elite institutions in their own national or state systems of higher education can ignore the lack of steering capacity longer than others and can continue to depend upon their outstanding reputation and political clout for guaranteed resources and competitive status. But ambitious universities, and universities concerned about their marginality, and even their survivability, cannot depend on old habits of weak steering. They need to become quicker, more flexible, and especially more focused in reactions to expanding and changing demands. They need a more organized way to refashion their programmatic capabilities. A strengthened steering core becomes a necessity. As we shall see, that core can take quite different shapes. But it must embrace central managerial groups *and* academic departments. It

## 6 Entrepreneurial Pathways of University Transformation

must operationally reconcile new managerial values with traditional academic ones.

### *The expanded developmental periphery*

Enterprising universities exhibit a growth of units that, more readily than traditional academic departments, reach across old university boundaries to link up with outside organizations and groups. In one form these units are professionalized outreach offices that work on knowledge transfer, industrial contact, intellectual property development, continuing education, fundraising, and even alumni affairs. In another larger, and more basic, form they are interdisciplinary project-oriented research centers that grow up alongside departments as a second major way to group academic work. Academic departments based on disciplinary fields of knowledge will go on being important: their disciplinary competence is essential, too valuable to throw away, and they have much power with which to protect their own domains. But the departments alone cannot do all the things that universities now need to do. Outward-reaching research centers express nondisciplinary definitions of problems. They bring into the university the project orientation of outsiders who are attempting to solve serious practical problems critical in economic and social development. They have a certain flexibility in that they are relatively easy to initiate and to disband. Constructed to cross old boundaries, the centers mediate between departments and the outside world.

If a university's trade with external groups is to continue to evolve, its infrastructure must keep pace. Anxious to find better tools for coping with societal demands, entrepreneurial universities take the risk of promoting an entire new periphery of nontraditional units. As we shall see, substantial organizational creativity is involved.

### *The diversified funding base*

To fashion a new change-oriented character, a university generally requires greater financial resources: it particularly needs discretionary funds. Widening the financial base becomes essential, since virtually everywhere mainline institutional support from government, as a share of total budget, is on the wane. Enterprising universities recognize this trend and turn it to advantage. They step up their efforts to raise money from a second major source, research councils, by more vigorously competing for grants and contracts. They set out to construct a widening and deepening portfolio of third-stream income sources that stretch from industrial firms, local governments, and philanthropic foundations, to royalty income from intellectual property, earned income from campus services, student fees, and alumni fundraising. Third-stream sources represent true financial diversification. They are especially valuable in providing discretionary money, beyond overhead charges and top-sliced sums extracted from research grants.

In the process of increasing income from the second and third streams, entrepreneurial universities learn faster than nonentrepreneurial counterparts that money from many sources enhances the opportunity to make significant moves without waiting for systemwide enactments that come slowly, with standardizing rules attached. They accept and promote the maxim offered by two American observers as long ago as the early 1960s: “a workable twentieth century definition of institutional autonomy [is] the absence of dependence upon a single or narrow base of support.” (Babbidge and Rosenzweig, 1962, p. 158)

#### *The stimulated academic heartland*

When an enterprising university evolves a stronger steering core, *and* develops an outreach structure, *and* diversifies its income streams, its heartland is still found in the traditional academic departments formed around disciplines, new and old, and some interdisciplinary fields of study. Spread across the operating base of the university as sites of research and particularly of teaching, the basic units, and their more encompassing multidepartment faculties, continue to be the places where most academic work is done. Whether they accept or oppose a significant transformation is critical. It is here in the many units of the heartland that promoted changes and innovative steps are most likely to fail. If the basic units oppose or ignore would-be innovations, the life of the institution proceeds largely as before. For change to take hold, one department and faculty after another needs itself to become an entrepreneurial unit, reaching more strongly to the outside with new programs and relationships and promoting third-stream income. Their members need to participate in central steering groups. They need to accept that individuals as well as collegial groups will have stronger authority in a managerial line that stretches from central officials to heads of departments and research centers.

The heartland is where traditional academic values are most firmly rooted. The required blending of those values with the newer managerial points of view must, for the most part, be worked out at that level. In the entrepreneurial university, the heartland accepts a modified belief system.

#### *The integrated entrepreneurial culture*

Enterprising universities, much as firms in the high tech industry, develop a work culture that embraces change. That new culture may start out as a relatively simple institutional idea about change that later becomes elaborated into a set of beliefs which, if diffused in the heartland, becomes a universitywide culture. Strong cultures are rooted in strong practices. As ideas and practices interact, the cultural or symbolic side of the university becomes particularly important in cultivating institutional identity and distinctive reputation.

In the transformation of universities, values or beliefs may lead or follow

## 8 Entrepreneurial Pathways of University Transformation

the development of the other elements. We shall see them in cycles of interaction, themselves developing over time. Organizational values ought not be treated independently of the structures and procedures through which they are expressed. An *institutional* perspective is required. The first four of our five elements are means by which transforming beliefs are made operative.

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I wish to stress again that the conceptualization of these five common transforming elements developed in the course of research. Initial categories used during the first year of the study were broad and open-ended. In interviews I began with the personal background of the respondent and then moved on to five major topics: the overall character of the university; the nature of leadership, past and present; the relationship between the administration and the faculty; the bases of financial support; and the shape of research and advanced training – a category much on my mind from the focus of a prior project. (Clark, 1995a) The exploratory categories were set out in a paper delivered at an international conference in the summer of 1994; it appeared later in an article on “leadership and innovation in universities.” (Clark, 1995b) After the first visits to four of the institutions – Warwick, Twente, Strathclyde, and Chalmers – I attempted “midstream” to develop more pointed and useful categories. They were reported in a second conference paper and follow-on article as a one-year progress report. (Clark, 1996) I used the newly created common elements during the second round of field visits in 1996 both to clarify their conceptualization and empirical reach, and to determine if additional categories were needed. The five features offered a welcomed simplicity among the many that might have been discussed. Here presented in particularly simplified form, they become more elaborated when they are plunged into the complex realities of individual university development.

Without doubt, significant innovation in the character of a university means that some core tasks and some deep structures are altered to the point where the long-term course of the organization is changed. Such transforming work must be done locally, in the university itself. It must extend over years that often become decades. The sustained work calls for collective action leading to new practices and beliefs, steps that are entrepreneurial in character, with much risk-taking and flexible adjustment along the way. When traditional habits are not enough, universities need to develop *an entrepreneurial response*. In the institutional case studies that follow, we will see that response, variously fashioned in detail, composed of the features that are here identified as basic elements of transformation.

## The Problem of University Transformation

We have seen five European universities in action, each transforming itself over a period of ten to 15 years by vigorous effort that can be characterized as entrepreneurial. Each university's development is itself a complex institutional story, one best told when embedded in contextual peculiarities and unique features of organizational character. When thus portrayed, the universities offer different histories, settings, and profiles. We then know Warwick in the English Midlands as a major research university only three decades old that faced down hard times in the 1980s and positioned itself to compete with the best universities in its own country and the world. We know Joensuu in rural Finland as a minor comprehensive university formed out of humble beginnings in the late 1960s that had to take risks and push hard 15 years later simply to achieve a sustainable niche in its own national system. As a completely technological university located on the west coast of Sweden we see Chalmers as a place that has retained a specialized form even as it asserts innovative strength across a spectrum of fields in engineering and applied science and assumes a special status in the Swedish university system. Twente, hard by the German border in The Netherlands, stands as a technological university of somewhat broader character, with a growing second focus in applied social science and its own set of distinctive campus features. Glasgow's Strathclyde, defined in the British system as Scotland's historic technological university, has taken on an even more semicomprehensive form where three of its five faculties (business, education, and the arts) are concentrated in research, teaching, and service outside science and technology. Five universities, five

distinct places, conditioned by national and local contexts, different origins and developmental trajectories, and the commitment and effort of particular individuals.

But we have also seen that the institutional stories can be framed in a common conceptual structure. Formed largely from research observations, five identified elements become generalized pathways of a type of university transformation which builds upon inquiry and moves an institution aggressively into increasingly competitive orbits of science and learning. The abstracted pathways serve analytically as middle-range categories. They rise up from the realities of particular institutions to highlight features shared across a set of universities, but at the same time they still allow for local variation. Operating at only a first level of generality, the elements avoid the mists of vagueness encountered in the rarified atmosphere of unanalyzed academic abstractions and commencement-day rhetorics that clog academic and public images of how universities operate and change. My conceptual framework also shuns sweeping expressions of leadership and mission, reengineering and empowerment, strategy and stakeholding, the bromides and platitudes of the dominant management literature of the 1980s and 1990s. (Micklethwait and Wooldridge, 1996) I have stayed close to the special features of *academic* organization and have sought concreteness in the organized tools of this particular sector of society. Four elements are highly structural: we observe them in tangible offices, budgets, outreach centers, and departments. Only the more ephemeral element of institutional idea, floating in the intangible realm of intention, belief, and culture, is hard to pin down. Emphasizing manifest structures helps greatly in explaining the development of organized social systems. Without doubt, organizational change is sustained when it acquires specific carrying vehicles. Significant change in universities has definite organizational footing.

With the five-element framework in hand, pinpointing developmental pathways, we can confront a prior question: is there a generalizable *need* to transform lurking in these five cases that may also be deepening in other universities? Ambition to do more than currently could be done certainly played a major role in the examined institutions. Thoughtful administrators and faculty saw that their institution could not become all that it could be if it remained in its 1970s form; a revised posture less hobbled by imbedded constraints was required. In sensing that significant transformation was compelling, the five universities chosen for study were surely not alone. A few other institutions in Europe have similarly embarked on a transforming journey; still others around the world have had cause to contemplate major change. Confidence in the traditional ways of organizing and operating academia has been eroding.

In this concluding chapter I want to explore the reasons why other universities will find themselves treading the entrepreneurial path, *or* will ignore the need to undergo significant transformation at considerable peril. I argue that

widespread features of a rapidly changing university world pressure individual institutions in many nations to become more enterprising. If multitudes of universities need to engage in the hard work of entrepreneurially led change, then the interrelated elements brought forward in our five-case analysis may be seen as answers to a global problem of growing university insufficiency.

Modern universities develop a disturbing imbalance with their environments. They face an overload of demands; they are equipped with an undersupply of response capabilities. In a demand-response equation of environment-university relationships they may be seen as falling so badly out of balance that if they remain in traditional form they move into a nearly permanent stage of disequilibrium. A tolerable balance requires a better alignment. Transforming pathways are then a means of controlling demand and enhancing response capability. To orchestrate the elements, institutional focus takes center stage.

The concept of the focused university, on which I conclude, points to a type of organizational character that growing classes of universities will need for sustainable development. In evermore turbulent settings, universities can become robust as they develop problem-solving capabilities built around a flexible focus. But to do so they must become uncommonly mindful of their characterological development. Facing complexity and uncertainty, they will have to assert themselves in new ways at the environment-university interface. But they will still have to be universities, dominated as ever by educational values rooted in the activities of research, teaching, and study.

### The Demand-Response Imbalance

I remarked in the introduction to this study that national systems of higher education can neither count on returning to any earlier steady state nor of achieving a new stage of equilibrium. As principal actors within those systems, public and private universities have entered an age of turmoil for which there is no end in sight. Disjuncture is rooted in a simple fact: *demands on universities outrun their capacity to respond*. From all sides inescapable broad streams of demands rain upon the higher education system and derivatively upon specific universities within it:

- More students, and more different types of students, seek and obtain access. Ever more accessible higher education means endless “clienteles” entitled to various types of education in their lifetimes. The general trend of elite to mass to universal higher education is well-known. But its effects in creating endless demands have not been well understood. This channel of demand in itself, if left unanswered – as in the case of open-door universities on the European continent – badly overloads the response capabilities of individual institutions. And as an “environmental” demand, the clamor for inclusion is organizationally penetrating; it flows

## 130 The Problem of University Transformation

into, through, and out of universities as applicants become participants for two, four, six or eight years, and more, only to again negotiate passage as adult students in continuing education.

- More segments of the labor force demand university graduates trained for highly specialized occupations. At different degree levels, graduating students expect qualification in diverse specialties. Graduates also need retraining throughout their professional careers. Thus the training requirements for the labor force also become virtually endless. This channel of demand in itself can badly overload universities when answers have not been found to control demand and bolster response capabilities. Again, a seemingly “environmental” demand does not merely knock at the door. Rather, future careers are expressed in a vast array of training tracks and specialized student careers within the academy. “Output” boundaries are increasingly permeable.
- Patrons old and new expect more of higher education. Those in government expect more to be done at lower unit cost. It has become a virtual iron law internationally that national and regional governments will not support mass higher education at the same unit-cost level as they did for prior elite arrangements. As other patrons, particularly industry, invest in universities, their diverse expectations become pressing. Patronage shades off into a growing chorus of interest groups repeatedly expressing their voices. “Accountability” extends in many directions. This stream of demand also becomes virtually endless. And the viewpoints of the many patrons also readily cross old university boundaries as group representatives take “their” allotted places on university boards, committees, and advisory groups.
- Most important of all, *knowledge outruns resources*. No university, and no national system of universities, can control knowledge growth. With expanding knowledge in mind, science experts have long spoken of “endless frontiers.” Flowing from the research imperative built into modern disciplines and interdisciplinary fields of study, knowledge expansion, *and* specialization, *and* reconfiguration are self-propelling phenomena.

The unbelievable scale and scope of just the contemporary knowledge base can be readily illustrated. As of the early-to-mid 1990s, the field of chemistry produced worldwide a million research articles in less than two years. Mathematics generated more than a hundred thousand new theorems a year. The biological sciences fragmented and recombined as well as produced new knowledge at a rate that required curricular revision of teaching materials every two to three years. Economists have turned their logics to every sector of society, rapidly creating subfields that concentrate on such topics as the economics of the family, crime, and social welfare. Psychology has become 20 and more specialties, some so large that they

break away in national and international associations of their own. Historians recently produced more literature in two decades than they did in all previous periods: by proliferating such specialties as the history of science in nineteenth-century Japan, they endlessly divide attention by societal activity, historical time, and country. Throughout the humanities new points of view that contest traditional understandings have emerged in a confusing jumble, causing some humanists to see the university as an institution that has lost its soul. And the knowledge produced and circulated in universities is now greatly extended by the growing array of knowledge producers located in other sectors of society. Business schools in universities are only partly responsible for the vast outpouring of books about business management which had risen in the mid-1990s to over 2,000 a year, more than five a day.

The point is inescapable: internationally, no one controls the production, reformulation, and distribution of knowledge. Fields of knowledge are the ultimate uncontrollable force that can readily leave universities running a losing race. Just by itself, the faculty of a university, department by department, expresses an inexhaustible appetite for expansion in funding, personnel, students, and space. Rampaging knowledge is a particularly penetrating demand, rooted in the building blocks of the system: it shapes basic-unit orientation, organization, and practice. Since it has no stopping place, it never ceases. As one field of knowledge after another stretches across national boundaries and brings more parts of universities into a truly international world of science and education, growth in knowledge specialties also becomes the ultimate internationalizing force for the higher education sector of society.

These four broad streams of endless demand converge to create enormous *demand overload*. Universities are caught in a cross-fire of expectations. And all the channels of demand exhibit a high rate of change.

In the face of the increasing overload, universities find themselves limited in response capability. Traditional funding sources limit their provision of university finance: governments indicate they can pay only a decreasing share of present and future costs. "Underfunding" becomes a constant. Traditional university infrastructure becomes even more of a constraint on the possibilities of response. If left in customary form, central direction ranges between soft and soggy. Elaborated collegial authority leads to sluggish decision-making: 50 to 100 and more central committees have the power to study, delay, and veto. The senate becomes more of a bottleneck than the administration. Evermore complex and specialized, elaborated basic units – faculties, schools, and departments – tend to become separate entities with individual privileges, shaping the university into a federation in which major and minor parts barely relate to one another. Even when new departments

can be added to underpin substantive growth and program changes, the extreme difficulty of terminating established academic tribes or recombining their territories insures that rigidity will dominate. Resources go to maintenance rather than to the inducement and support of change.

As demands race on, and response capability lags, institutional insufficiency results. A deprivation of capability develops to the point where timely and continuous reform becomes exceedingly difficult. Systemic crisis sets in.

How are universities near the end of the twentieth century sometimes made sufficient unto their changing environments? How are demand and response brought into reasonable balance? Adaptive responses that ease the strain take place at both system and institutional levels. System solutions set the broad context for university pathways of adaptive action.

### **The Search for System Solutions**

National and provincial systems of higher education primarily cope with the growing demand-response imbalance by differentiation. Through both planned schemes and unplanned adjustments, systems sort out gross bundles of tasks to different types of universities, colleges, and research establishments. (Clark, 1983; Teichler, 1988; Neave, 1996; Meek et al, 1996) Formal sectors are built: in Europe, universities and polytechnics have often been set apart; in the United States, universities, four-and-five-year colleges, and two-year community colleges are commonly separated into a tripartite division of labor. Additionally, where private institutions exist, they develop individual niches in the overall national system. Access is thereby differentiated, labor market relations segmented, and different patrons provide different types and levels of support and expect different results. Beyond such broad sector separation further differentiation often occurs among universities: specialized and comprehensive universities are common in European systems.

But formal differentiation is often strongly opposed. Recently in European countries, a political tug-of-war has taken place between political parties and interest groups who want to maintain or construct an integrated, even homogeneous, single national system and those who stress the advantages of a formal division of labor. A combination of nominal integration and operational differentiation has become a useful compromise. While such institutions as polytechnics and teacher training colleges are blessed with the university title and brought into an all-encompassing single system, the differentiation of institutions, programs, and degree levels continues. The university label is stretched to give it multiple meanings and usages.

The American system offers an extreme case of the creation of different types of universities. Private institutions quite freely anoint themselves as universities; public colleges, state by state, lobby themselves into the university title. The growing aggregation of 400 or more places called universities has stretched into a half-dozen major categories: some grant many doctorates and

do much research; some grant a few doctorates and do a little research; and some neither grant doctorates nor do hardly any research. (Carnegie Foundation for the Advancement of Teaching, 1994) Crossover types readily appear; e.g., some universities and colleges that are not permitted by state authorities to award doctorates proceed on their own to develop a research culture, secure more research funds than some institutions that do doctoral work, and link up with other institutions to give a joint doctorate. In Britain, after the government collapsed the old binary line and allowed polytechnics to become known as universities, the stretch in meaning of the term became much greater. A differentiation in resources and teaching and research commitments that previously took place between two main types of institutions became greater differentiation within a single formal type.

A “democratization” of titles does not bring full operational convergence: institutions become known more by what they do rather than by what they are called. Hence in national systems and on the worldwide stage we find some universities heavily concentrated on research and some that hardly do any at all; those that give many advanced degrees and others that concentrate almost completely on the first major degree; those oriented to knowledge for its own sake and those centered on useful knowledge; some that take up national roles and others situated as regional places; and on and on.

Internationally, in the 1980s and 1990s, differential effective access to sources of income rapidly became the favorite way to differentiate university systems. We have seen this national tool operate in Britain, Holland, Sweden, and Finland. Governmental mainline support with its standardizing effects is deliberately reduced or allowed to fall as a share of university costs. The system overall must turn to what we have categorized as second and third streams of support; each has largely differentiating effects. In research-grant competition, standardization gives way to winners and losers; research niches occupied by different universities offer comparative advantage. In exploiting numerous third-stream sources, universities have different possibilities set by location and historic capacity. Then as they individually maneuver, struggling to gain more resources, they widen the differences in specific configurations of external linkages. System evolution toward diversified income promotes a dynamic of institutional diversity and competition. Universities are potentially more individualized. Patrons are then all the more inclined to think they should treat unequal things unequally.

In overcoming response inadequacies, national systems of higher education can go beyond the broadbrush of the differentiation response; they can explore the utility of reforms by engaging in deliberate institutional experimentation. In Finnish higher education the process is known as “learning by experimenting.” (Välilmaa, 1994) There, recent experiments included the block-grant budgetary arrangement at Joensuu, the flexible workload scheme piloted at Jyväskylä, and several changes explored in other institutions in quality assessment and in the development of a new polytechnic sector. The Finns have

learned that pilot experimentation is relatively easy to initiate: everyone can readily agree to have an experiment get underway “because it is meant to be only a trial and it might fail.” The critical moment of “learning by experimenting,” for the system at large, comes “when the supporters of the experiment want to expand it system-wide.” (p. 153) Then others can coalesce in opposition around their doubts and in support of interests that might be weakened: academic labor unions have resisted in Finland when they anticipated a reduction in bargaining power and less equity in staff rewards.

One large advantage of experimentation in the search for solutions is that small-scale efforts at the outset avoid the large mistakes made when central officials mandate reforms across the entire system without preliminary testing. Since there is no way by means of prior reasoning that central planners can know enough about all local contexts and constraints, the Large Plan (or Big Bang) approach maximizes the scale and scope of unanticipated and undesired consequences. Centralized governments are biased in favor of this road to failure.

Systems of higher education are blunt instruments for reform. (For case studies that reveal bluntness in system efforts to “restructure” higher education in five American states, see MacTaggart and Associates, 1996) Using the differentiation response, systems can indeed establish broad divisions of labor, implicitly if not explicitly, that serve somewhat to limit demands made upon particular universities and colleges. Ministries and coordinating bodies can point institutions toward different combinations of programs and degrees; they can encourage different segments to adopt different doctrines supporting particular tasks. But systems acting from above have great difficulty in activating local initiatives. In western Europe the reverse has happened: system organization traditionally has worked to induce institutional passivity and weak local leadership. The national or state ministry provided administrative services and lumped together the staff of the university sector in systemwide categories of rank and salary; in effect, it created membership in a national civil service. Within the universities senior professors had commanding authority in their separate departments and institutes. This “continental mode” of state bureaucracy and faculty guild left a weak middle – the elected short-term rector assisted by only a small central staff and surrounded by congregations of powerful professors. (Clark, 1983, pp. 125–129) The “British mode” of authority structure was just a half-step away, with only modest authority located in vice-chancellorships (compared to that of American university presidents) and a web of faculty committees in and around an academic senate very involved in the consideration of change. Weak institutional steering became the norm. With some strengthening of rectorial authority and the enlarging and professionalizing of central staff, this pattern changed somewhat in many European universities in the 1970s, 1980s, and early 1990s, but not enough to constitute a sturdy response capability with which to face mounting and fast-moving demands. The weak center has severely limited the university capacity to change. Thus, the bluntness of system initiatives amidst

the growing scale and complexity of the university sector has coexisted with a *structured* lack of initiative at the institutional level.

Weak capacity to balance demand and response, we should note, varies somewhat between one-faculty and multifaculty universities. Although they do not escape the problem of deepening imbalance, specialized universities are better positioned than the comprehensive institutions to control demand around their subject specialization and, with a more integrated character, to pursue an entrepreneurial response. Their subject concentration helps measurably to solve the growing problem of institutional focus. It is no mystery why in Europe or America, or elsewhere, specialized universities can more readily move toward entrepreneurial postures than comprehensive ones, particularly if their specialty is technology or business. When I sought nominations of universities for this study, it was no accident that the institutions named by knowledgeable European colleagues, including ones not chosen for study, turned out often to be specialized places, for example, the technologically oriented University of Compiègne in France, the business-administration oriented University of St. Gallen in Switzerland.

In contrast, the imbalance thesis applies strongly to comprehensive public universities. Organized around a wide array of subjects that stretches from classics to medicine, these institutions virtually promise higher officials, legislators, and the general public they will be all things for all demands. Martin Trow (1970, pp. 184–185) noted a quarter-century ago in an analysis of “elite” and “popular” functions of modern higher education that responding to external needs and demands was even then fast becoming an endless task:

If one popular function is the provision of mass higher education to nearly everybody who applies for it, the second is the provision of useful knowledge and service to nearly every group and institution that wants it. . . the demand on the universities for such service is increasing all the time. This in part reflects the growth of the knowledge-base created by the scientific explosion of the past few decades. Not only is much of this new knowledge of potential applied value to industry, agriculture, the military, the health professions, etc., but also new areas of national life are coming to be seen as users of knowledge created in the university.

The implicit commitment of universities to embrace all of the expanding knowledge core of modern society deepened the commitment both to extend access and to service the interests of outside groups with diverse bundles of relevant knowledge and useful training. System management has been unable to control this explosion in commitments: overloaded universities have simply become more overloaded.

Other observers have also taken early note of the increasing imbalance. Based on a study of 17 universities and colleges then under stress, David Riesman warned in the 1970s against the danger of institutions overextending their resources in order to be all things to all people. (Riesman, 1973, p. 445) Two decades later, in the 1990s, the tendency to overextend resources has

become more marked and the results more painful. Based on site visits and interviews in the mid-1990s at 13 colleges and universities in the American system, Leslie and Fretwell found there “was broad recognition that missions had become too loose, that too many different programs were being offered, and that scarce resources were being spread too thin across too many activities.” (Leslie and Fretwell, 1996, p. xiv) Administrators and faculty “reported (and lamented) that they had made too few hard decisions” during the previous two decades. Their lament “was frequently punctuated with one phrase: ‘we have tried too hard to be all things to all people,’ with the unspoken trailer [that] ‘we have become too diffuse to use our scarce resources well’.” (p. 22) These American observers concluded that “a theme. . . ran throughout our site visits: being distinctive and purposeful is better than being all things to all people.” ( p. 16) And institutional strain this time, in the 1990s, was seen by participants as systemically different from periods of stress in the past: “It is a common refrain among those with whom we have consulted to suggest that things are not going to be the same this time, or ever again.” (p. xii)

The differentiation response, it seems, finally comes down to the individual university. Each university has always had unique features that stem from geographic location, genetic imprints, student backgrounds, idiosyncratic historical developments, faculty strengths and weaknesses, and the play of particular personalities. Now, particularly as knowledge outruns resources, a university’s basic departments are under ever greater pressure to commit to specialties that differentiate them from their peer-discipline departments at other universities, whether in physics or psychology or history. And what happens among departments and faculties radiates upward to intensify the need for entire universities to differentiate themselves in niches of knowledge, clientele, and labor market linkage. Such differentiation can be left to drift, and hence to occur slowly; but with accelerating change, the costs of drift and delay rise – the demand-response imbalance only deepens. Institutional action then has to be set in motion.

System organizers can help to clear the way by reducing state mandates and manipulating broad incentives, but only universities themselves can take the essential actions. The point was made in striking fashion by Clark Kerr in 1993 (p. 33, emphasis added) when he stressed that

For the first time, a really international world of learning, highly competitive, is emerging. If you want to get into that orbit, you have to do so on merit. You cannot rely on politics or anything else. You have to give a good deal of autonomy to institutions for them to be dynamic and to move fast in international competition. *You have to develop entrepreneurial leadership to go along with institutional autonomy.*

Enter the growing necessity of what we can now call “the entrepreneurial response.”

### The Entrepreneurial Response

If the state and other external patrons cannot exercise the required initiative, how can universities shift from a passive to an active mode? As historically constituted, their internal faculties and departments cannot separately do the job. Oversight of their particular fields and protection of their own material interests has been their customary mandate. Only an overall organizational realignment, constructed in a first approximation by the elements captured in this study, can set into motion a new highly active mode. The five cases and certain relevant studies can help to place those elements in the broader framework of the imbalance thesis.

#### *The strengthened steering core*

Warwick, Twente, Strathclyde, Chalmers, Joensuu – all exhibited in 1995 a greater systematic capacity to steer themselves than they had possessed 15 years earlier. That ability did not take any one form. It could be relatively centralized or decentralized, generally appearing in practice as a locally unique combination of the two – a “centralized decentralization.” (Henkel, 1997, p. 137) At a given time this evolving steering capability appeared in different institutions at different stages of development and in degree. It could have been initiated by strong-minded change agents, figures drawn to leadership positions from within or without who wished to break the cake of custom. But in the sustained work of implementation such personal leadership commonly gave way to collegial groups. Stronger line authority also appeared: rector’s office to dean to department head, or, in flat structures that bypass deans, from center to department head. Individuals and groups were held accountable.

Most important, the administrative backbone fused new managerial values with traditional academic ones. Management points of view, including the notion of entrepreneurship, were carried from center to academic heartland, while faculty values infiltrated the managerial space. The blending of perspectives worked best when academics who were trusted by peers served in central councils and took up responsibility for the entire institution. Since the underlying traditional academic culture cannot be ignored, cannot be pushed aside, it must be put to work and thereby adapted. Central faculty involvement became a crucial step in avoiding what the academic staff would otherwise see as hard managerialism, too much top-down command. In the hard work of transformation in these cases and elsewhere, much depends on how well managerial and faculty values become intertwined and then expressed in daily operating procedures.

Whatever its shape, the strengthened managerial core consists of agents who work to find resources for the institution as a whole. They seek other

patrons instead of waiting passively for the government to return to full funding. They work to diversify income and thereby enlarge the pool of discretionary money. They seek out new infrastructure units that reach across old university boundaries to link up more readily than traditional departments with outside establishments, especially industrial firms. The core gives the institution a greater collective ability to make hard choices among fields of knowledge, backing some to the disadvantage of others; this in turn shapes access possibilities and job-market connections. The strengthened steering mechanism is necessary for the task of cross-subsidizing among the university's many fields and degree levels, taxing rich programs to aid less-fortunate ones that otherwise would be relegated to the corner or even dropped from the enterprise because they cannot pay their way. Agents of the core thereby not only seek to subsidize new activities but also try to enhance old valuable programs in the academic heartland. As much maneuvering among contradictory demands becomes necessary, the agents of the constructed core become institutionally responsible for doing so.

A strengthened administrative core, then, is a mandatory feature of a heightened capability to confront the root imbalance of modern universities.

#### *The enhanced development periphery*

The new peripheries that enterprising universities construct also take quite different specific forms. They variously consist of outreach administrative units that promote contract research, contract education, and consultancy. They include a varied array of research centers that are generally, but not always, multi- or transdisciplinary. The new units and centers may be closely or loosely linked to the steering core and the heartland departments. Like science parks that become autonomous, some peripheral units may have the name and sponsorship of the university but then operate much like mediating institutions situated between the university and outside organizations. Again, there is no one way, no one model to emulate.

But the developmental peripheries we have observed have a valuable common outcome: they move a university toward a dual structure of basic units in which traditional departments are supplemented by centers linked to the outside world. The matrix-like structure becomes a tool for handling the inevitable growth of the service role of universities. Department-based "specialist groups" are complemented by "project groups" that admit external definitions of research problems and needed training. The new groups cross old lines of authority; they promote environmental linkages in their daily practice. We noted at Chalmers that they can even effect reciprocal knowledge transfer; the university learns from outside firms as the companies learn from the university. The matrix structure allows for more temporary units, thereby introducing flexibility amidst stability. With tenured staff mainly based in the departments and nontenured and part-time staff often predominating in the

outreach centers, the more temporary units of the periphery are more readily disbanded.

Since units of a developmental periphery extend, cross, and blur boundaries, they can decisively shape the long-run character of a university. They can develop new competencies close to useful problem solving. They can generate income that helps to diversify funding. They answer the call for interdisciplinary efforts. But if not judged by academic values as well as managerial and budgetary interests for their appropriateness in a university, they can move an institution toward the character of a shopping mall. A connected and somewhat focused construction of the periphery requires a collective institutional capacity to make choices based on educational values. New outward-looking units can make the problem of overall institutional focus all the more difficult: research centers contend with old departments, transdisciplinary perspectives with disciplinary orientations, the useful with the basic, the outward-looking with the inward-oriented. But when carefully monitored, the periphery becomes a second virtually essential element with which to lessen the imbalance between environmental demands and response capacity. Traditional departments alone cannot effect all the needed linkages: in themselves, they cannot add up to an effective focus. The new periphery is necessary, even if it adds to the organized complexity of the university.

As a halfway house to the outside world, the developmental periphery becomes an organized location within a university for the entry and absorption of whole new modes of thinking. In ideal typical terms formulated by an international study group in the mid-1990s, their designated "Mode 1" refers to the traditional way of handling knowledge in disciplinary frameworks. A newly emerging "Mode 2," transdisciplinary and problem-oriented, was seen by the study group as located largely outside universities in a host of knowledge-centered enterprises that stretch from major industrial laboratories to policy think tanks to management consultancies to new small and medium-sized enterprises. (Gibbons et al, 1994; see also Ziman, 1994) Between the ideal types there lies a lengthy continuum of different practical combinations. The peripheries of universities we observed in this study incorporate much Mode 2. Their units are established precisely to go beyond disciplinary definitions; they extend university boundaries to bring in the perspectives of outside problem-solving groups; they are prepared to take their leads from the outside and to work close to application. They are often strongly committed to the straight-on production of useful knowledge.

An enhanced developmental periphery plays many roles in enterprising universities, not the least in bringing new modes of thinking and problem solving within newly stretched boundaries. Organizationally, in Peter Scott's terms, it helps to stretch the "core" university into the "distributed" university, where knowledge, the primary commodity, is more "applications-generated." (Scott, 1997, pp. 11–14)

*The discretionary funding base*

Demand overload hits hard at the core support of universities. Student growth and knowledge growth together increase enormously the costs of systems of higher education and individual universities. Higher costs then change the relationship of universities to their principal patrons, especially funding ministries. If higher education in earlier days had been a minor charge in governmental budgets, it now becomes a major expenditure. As a big-ticket item, university support moves up the agenda of governmental concerns and is thrown into direct competition with other major interests. Politicians pay attention. They put universities on their personal and party agendas. The sheer happenstance of where university support is decided in the state bureaucratic and legislative structure can even become critical, variously contending with the major sums sought by schools, welfare agencies, health departments, prisons, agricultural interests, and the military. Even in good times of rising state income and outlay, governments then seek to control higher education costs. In bad times of general retrenchment they insist on major cuts. They issue dire warnings in statements that echo internationally that the future will bring even more constraint. Government becomes an uneven patron, often acting like a sometime purchaser of university services; it can hardly be depended on in the long term. Its own changing agenda will at times give overwhelming priority to coping with depression, national debt, and international entanglements.

Traditional universities come to a fork in the financial road. They can passively fall in line and undergo parallel financial increases and decreases – as the government goes, so they go – with the governmental stimulus determining university response; or they can actively intervene by deciding to develop additional lines of income from pursued patrons. University ambition encourages the second choice, competition virtually demands it. Such budgetary activity is a crucial step in university entrepreneurship. Active cost containment is also then given a high priority by the institution itself, from central staff to the many departments and units in the academic heartland and the developmental periphery.

To build a diversified funding base in a university is to construct a portfolio of patrons to share rising costs. As new patrons contribute, their expectations of what they should get in return readily intrude to become new constraints. Universities then need greater self-consciousness on where they draw the line between what they are willing to do and not do to meet those demands. The collective will, located in the steering core, then comes into play to define new limits around greatly expanded boundaries; heartland departments also have to test their own edges of legitimacy.

But whatever the relations with specific patrons, a diversified funding base enhances university discretion. The enlarged portfolio of income streams increases total resources. It allows a university to “roll with the punches”; a

loss here is replaced by a gain there. It allows a university to build reserves (and to borrow monies) and then to take innovative steps, as Warwick did when it used accumulated surpluses from its earned income to fund a new, striking research fellowship scheme. Diversity in financing, it now appears, "can be regarded as a prerequisite for adaptability." (Hölttä, 1995, p. 56) The multistream financial base enhances the evermore important capacity to cross-subsidize internally: top-slicing and redistribution of funds by central committees tap the monies brought in by some fields and activities to aid others judged to be necessary and needy. Cross-subsidy becomes the financial heart of university integration. (Massy, 1994; Williams, 1995)

The internal disposition of funds raised through diversified sources is always contentious and never permanently solved. Professors and departments active in bringing in money do not like to see some of it passed off to others who are not, especially if the other departments appear to be lost in mists of conceptual ambiguity, even bogged down in self-imposed disarray. The greater the internal dispersion of fields and interests, the greater the need to have the haves help the have-nots. *And* the more contentious the issue of internal redistribution becomes. Comprehensive universities have great difficulty in moving money across the gulf between, for example, physics and classics as specific fields or more broadly between engineering and the humanities. Cross-subsidization may flow from teaching to research, or in some cases in the reverse direction. It may flow across levels of education, from undergraduate to graduate, or the other way around. Certainly a primary issue in diversified funding, it is central to the making of choices leading to better focused universities.

#### *The stimulated heartland*

Since universities consist of widely divergent fields in their traditional departments, enterprising action typically spreads unevenly in the old heartland. Science and technology departments commonly become entrepreneurial first and most fully. Social science departments, aside from economics and business, find the shift more difficult and commonly lag behind. Humanities departments have good reason to be resisting laggards: new money does not readily flow their way from either governmental or nongovernmental patrons. Deliberate effort on their part to go out and raise funds by offering new services may seem particularly out of place, even demeaning. Since departmental adoption of an entrepreneurial attitude will normally vary, a university that has partially transformed itself to be more enterprising might largely exist in a schizophrenic state, entrepreneurial on one side and traditional on the other. Administrators and faculty at the five universities studied rejected this option. Schizophrenic character did not appeal to them: it suggested a split that would mean endless, bitter contention. If that were to be the outcome,

then the move into entrepreneurial action might well be more trouble than it was worth: doubters in other universities would be right.

Overall scale and scope are perhaps decisive here. Small to middle size universities – 6,000 to approximately 13,000 in our five cases – are still positioned to seek a unified character, even if they stretch from microbiology to folklore. An integrated identity has much to offer: perceivable gains outweigh apparent losses. But large universities of 20,000, 30,000, 50,000 and more, particularly when organized in large stand-alone faculties or schools – the dominant form in Europe and in much of the world – might well find that entrepreneurial habits do not spread well across their major parts. They might then be forced to operate with an entrepreneurial/traditional split in character, with minimal interaction and little or no cross-subsidy across major components. The entrepreneurial side could depend on diversified income and look to new forms of outreach and knowledge production. The traditional side could depend on mainline allocation based on student enrollment and degree output as the foundation for the future.

Impressive in the universities studied was the extent to which the heartland departments had bought into entrepreneurial change. Their changeover has not been easy, not even in the specialized institutions most fully based on science and technology. Even in science departments professors may be committed to knowledge for its own sake in a way that excludes applied interests. But the distinction between basic and applied has steadily blurred and science departments can typically find foci that combine the two. In the social sciences and humanities, as we have seen, departments also find new ways to be educationally useful as they relate to new demands with, for example, policy analysis and multimedia explorations. One traditional department after another finds educational as well as economic value in becoming a more enterprising basic unit.

Stimulated academic departments must find ways to fuse their new administrative capability and outreach mentality with traditional outlooks in their fields. Academic norms operate close to the surface: they define whether changes are “up-market” or “down-market.” Departmental entrepreneurship that leads to shoddy goods, as defined by other academics, can readily set in motion a vicious circle of declining reputation and less selective recruitment of staff and students. Departments have to make clear that they are not willing to respond to all demands that swirl around them in their respective fields of activities – from potential students, young and old, industrial firms and professional associations, local, regional, national, and international governmental departments. They have to select and thereby to focus. When carried out effectively, a widespread embodiment of entrepreneurship in a university strengthens *selective* substantive growth in its basic units.

*The entrepreneurial belief*

The most difficult part of this study's analysis was to grasp organizational ideas and beliefs and relate them to structures that support processes of change. A long-standing popular misconception places a Great Person with a Large Idea at the front end of change. A modern derivative of this view depicts a chief executive officer or management team formulating at the outset a global strategic plan. Idea becomes purpose, a mission statement soon follows, and all else becomes means to a prechosen end. But the reality of change in complex organizations, especially in universities, is different. New, institutionally defining ideas are typically tender and problematic at the outset of an important change. They must be tested, worked out, and reformulated. If they turn out to be utopian, they are soon seen as counterproductive wishful thinking. If found to be excessively opportunistic, they provide no guidance: any adjustment will do. Ideas become realistic and capable of some steering as they reflect organizational capability and tested environmental possibilities. New organizational ideas are but symbolic experiments in the art of the possible.

An institutional *idea* that makes headway in a university has to spread among many participants and link up with other ideas. As the related ideas become expressed in numerous structures and processes, and thereby endure, we may see them as institutional *beliefs* that stress distinctive ways. Successful entrepreneurial beliefs, stressing a will to change, can in time spread to embrace much and even all of an institution, becoming a new *culture*. What may have started out as a simple or naive idea becomes a self-asserting shared view of the world offering a unifying *identity*. A transformed culture that contains a sense of historical struggle can in time even become a *saga*, an embellished story of successful accomplishment. Our five universities have moved along this ideational road.

Such cultural transformation at Warwick started out in the early 1980s with the tender idea that it would "earn" its way. With growing success, the earned income approach became a sturdy belief that here was an unusual British university aggressively developing new sources of income, new patterns of organization, and new productive relationships with the outside world. True believers dominated the steering core and became more numerous in a campuswide culture. Outsiders took special note. By its twenty-fifth year, the university was uncommonly well-equipped symbolically to celebrate itself with an enriched story of "the Warwick way." An organizational saga was emerging.

Twente started its move in the early 1980s with an almost defiant assertion that it was "*the* entrepreneurial university," hardly knowing what that would mean in practice. It turned out to mean that Twente would develop a strengthened managerial core and a newly devised developmental periphery and the other operational elements this study has identified. Spreading out in

the academic heartland, the initial simply stated idea became an embedded belief, then a widespread culture. By the mid-1990s this small place claimed a rugged identity formed around a recent history of largely successful struggle: a saga was on its way. Twente came to believe in itself to the point of making vigorous efforts to spread its particular attitudes and special operational forms to others: it took up leadership in an emerging small circle of European self-defined "innovative universities."

The leading idea at Strathclyde in the early 1980s was not sharply formulated. A new vice-chancellor felt strongly that the place had to become more managerial, more businesslike, more able to stand on its own feet. If it were to prosper it had to be run differently. In time, the initial managerial idea, expressed in a distinctive central steering group, a productive periphery, and an entrepreneurial "spirit" in some heartland departments became folded into a generalized belief system of "useful learning." This doctrine embraced two hundred years of development while it asserted a will to work with industry and government to solve current problems. The Strathclyde doctrine of useful learning only needed to be slightly embellished and romanticized, as exemplified in the bicentennial celebration I described, in order to become an organizational saga.

Chalmers self-consciously began to assert in the early 1980s a commitment to "innovation." As the idea and related practices were worked out, a sense of difference grew. A long-standing Chalmers "spirit" was intensified to become an embracing culture that helped predispose the institution to take up in 1994 the highly unusual status of a foundation university, an institutional definition that nearly all other Swedish universities were unable or unwilling to consider. The sense of distinctiveness was thereby further extended, intensifying overall identity. In this ideational part of the quest, deeply rooted cultural features have become parts of a Chalmers saga in which past developments, current intentions, and future character are depicted as closely linked. Chalmers enthusiasts could readily say in the mid-1990s that their place was something different in the state of Sweden. They also had confident reason to believe that a similar entrepreneurial culture will increasingly appear in other Swedish universities.

Joensuu in the mid-1980s took to an idea of becoming a pilot institution that would experiment with an important basic change for the entire Finnish national system of universities. In its national setting the idea of doubly decentralizing budget-based control all the way down to the department level was a radical one. Joensuu effected the idea to the point of departmental dominance. Early acceptance of a second idea, piloted at another university, that of flexible workloads, helped to make the institution significantly different from those operating in traditional Finnish style. As the "piloting" ideas worked their way into the fabric of the institution, Joensuu has grown up symbolically as well as physically, strengthening its sense of self and its place in the world.

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We have noted repeatedly throughout this study that the five elements of transformation become just that by means of their interaction. Each by itself can hardly make a significant difference. Those who see universities from the top-down might readily assume that the strengthened steering core is the leading element. But a newly constituted management group, for example, is soon without teeth if discretionary funds are not available, new units in the periphery cannot be constructed, heartland departments fall into opposition, and the group's idea of a transformed institution gains no footing. The interaction of transforming elements also largely takes place incrementally over a number of years. Our results accord strongly with an incrementalist view of organizational change. (Lindblom, 1959, 1979; Redner, ed., 1993) Particularly for universities, we stress *interactive instrumentalism*. Transformation requires a structured change capability and development of an overall internal climate receptive to change. As we have seen by reviewing development over ten to 15 year periods, the building of structural capability and cultural climate takes time and is incrementally fashioned. Action taken at the center requires faculty involvement and approval. Change in new and old units in the periphery and in the heartland is piecemeal, experimental, and adaptive. The operational units, departments and research centers, remain the sites where research, teaching, and service are performed: what they do and do not do becomes finally central. As put sharply by David W. Leslie (1996, p. 110) in arguing against linear-rational views of strategic planning: "change in colleges and universities comes when it happens in the trenches; what faculty and students do is what the institution becomes. It does not happen because a committee or a president asserts a new idea."

Even in the business world, we may note, careful analysts who trace organizational change over many years observe that successful firms essentially engage in "cumulative incrementalism": they inch forward by making rapid partial changes. Firms choose to "spread and minimize risks by initiating many different projects," rather than try to engage in large-scale strategic change. (Stopford and Baden-Fuller, 1994, p. 523) They engage in "concentric entrepreneurialism." Even in business, leadership is depicted as a diffused phenomenon: "Leadership is acutely context sensitive. . . The need may be for more than one leader over time if performance is to be maintained. Equally important may be the creation of collective leadership at a senior level. . . which may then be supported by the development of a sense of complementary leadership at lower levels. Leading change involves action by people at every level of the business." (Pettigrew & Whipp, 1991, pp. 280–281) And from a third careful business analyst: "Capabilities grow through the actions of the members of the firm – through the behaviors of employees at all organizational levels." (Leonard-Barton, 1995, p. 28)

Such findings from sustained analysis of business firms over years of development concur with developmental studies of universities: leadership can be an attribute of groups; entrepreneurship is a phenomenon of total organizations and their many collective parts. “The entrepreneurial response” on which we have concentrated is an all-university capability.

### The Focused University

The entrepreneurial response to the growing imbalance in the environment-university relationship gives universities a better chance to control their own destinies. The response may be seen as a way to recover the autonomy lost, particularly in public universities, when mounting demands began to dominate the capacity of universities to respond. The new autonomy is different from the old. In an earlier day autonomous public universities could be given full state support and largely left alone to educate a few students, engage in limited basic research, and prepare professionals for several fields of work. When only one young person in 20 sought university training, most people most of the time did not think about what the university was doing and what it could do for them. Fields of research were simpler, knowledge growth, while moving at a striking pace, could still be grasped. As the end of the twentieth century approaches, however, the demand side of the environment-university relationship has spun out of control and institutional response has become increasingly insufficient. Now when virtually everyone can demand some involvement or relationship, loosely coupled universities have offered ad hoc, diffuse responses.

Universities are caught up in grand contradictions: with less money, do more and more; maintain as always the expanding cultural heritage, the best of the past, but quickly and flexibly develop new fields of study and modes of thought; relate to everyone’s demand because all are “stakeholders.” An American university president crisply formulated in the mid-1990s that the modern research university (public *and* private) has become “overextended, underfocused; overstressed, underfunded.” (Vest, 1995) Alert rectors and vice-chancellors in Europe could readily agree, recognizing that not only can the condition of underfunded lead to a sense of being overstressed, but that “underfocused” and “overextended” may be virtually two sides of the same institutional posture.

The entrepreneurial response offers a formula for institutional development that puts autonomy on a self-defined basis: diversify income to increase financial resources, provide discretionary money, *and* reduce governmental dependency; develop new units outside traditional departments to introduce new environmental relationships and new modes of thought and training; convince heartland departments that they too can look out for themselves, raise money, actively choose among specialties, and otherwise take on an entrepreneurial outlook; evolve a set of overarching beliefs that guide and

rationalize the structural changes that provide a stronger response capability; and build a central steering capacity to make large choices that help focus the institution. The entrepreneurial response in all its fullness gives universities better means for redefining their reach – to include more useful knowledge, to move more flexibly over time from one program emphasis to another, and finally to build an organizational identity and focus. Warwick, Twente, Strathclyde, Chalmers, and Joensuu have all in somewhat different specific ways shown us how to focus university reach.

Universities need foci that help them solve the problem of severe imbalance and to define anew their societal usefulness. They need to find sustainable niches in the ecology of a knowledge industry that becomes more international and more dispersed among institutions outside formal higher education. The difficulties are huge. Comprehensive universities, those of wide scope, in Europe, America, and elsewhere will remain under great popular and governmental pressure to cover the broadest possible range of subjects and interests. Scattering their promises, and in many cases unable to cap their size, they will continue to tend to spread in a virtually uncontrolled fashion. They take on even more tasks and expectations, undercutting the possibilities of building a critical mass of resources, faculty, and students in different basic units. To contain unbridled comprehensiveness, choices have to be made about the relative magnitude of beginning and advanced levels of study, different services to clientele and occupations, and especially about fields of knowledge to highlight and downplay. And within every field choices have to be made to pursue certain specialties while ignoring others. If such choices are not made, then all units and subunits simply receive fair shares on the downslope of limited resources and hardened structures. Steering is left to the mercy of sunk costs.

As active university postures come to the fore, we find they can have positive effects on university character that are not anticipated in traditional thought. The entrepreneurial pathways tend to build coherence. A university becomes more willing to assert to the outside world that it is different, even distinctive. The whole institution can legitimately claim that it has its act together and is thereby better prepared to cope with the confusing complexity and rising uncertainty characteristic of modern higher education. A reputation of coherent competence provides a symbolic bridge to the environment for a favorable gathering of money, staff, and students.

As entrepreneurial responses multiply, universities become more individualized. To make the point in striking fashion, that higher education is not one thing and it has no one future, the Carnegie Council of the 1970s entitled their last report on the U.S. system *Three Thousand Futures*. (Carnegie Council, 1980) Actively forming their own character in different specific contexts, and developing different specific strengths and weaknesses, entrepreneurial universities, anywhere in the world, similarly develop their own distinctive futures. Rather than praising homogeneity, they put their trust in diversified

capability – a posture appropriate for an evermore complex and competitive domain.

An entrepreneurial achievement of distinctiveness serves internally to unify an identity and thereby, ironically, to rebuild a sense of community. “Entrepreneur” may continue to be a negative term in the minds of traditional academics, all the more so after they have seen hard managerialism in action. They may go on thinking of entrepreneurship as raw individualistic striving that is socially divisive. They may continue to fear that a traditional academic community, assumed to exist, will be fragmented if entrepreneurial behavior takes over. However, diffuse in structure and fragmented in intent, traditional European universities, and many others around the world, have had little or no common symbolic and material integration. What integration they have had is steadily eroded by increasing scale and scope. Collective entrepreneurship overcomes their scattered character, leading toward a more integrated self. When entire departments and faculties are assertive, and especially when a whole university takes on an entrepreneurial character, the old understandings are turned upside down. Academic groups, small and large, then see themselves in common situations with common problems, common allies, and common enemies, and in need of common action. A common culture grows, an identity is shared.

Collegiality is then put to work in a different way. Bernard J. Shapiro (President, McGill University) and Harold T. Shapiro (President, Princeton University) have cogently argued that collegiality is normally “biased in favor of the status quo – not to mention the status quo ante.” The challenge is “to redefine our understandings and commitment so that, in empirical terms, collegiality and difficult choices are not mutually exclusive.” (1995, p. 10) The collective forms of entrepreneurship captured in this study change the equation. They put collegiality to work in the service of hard choices. Collegiality then looks to the future. It becomes biased in favor of change.

Self-defining, self-regulating universities have much to offer. Not least is their capacity in difficult circumstances to recreate an academic community. Toward such universities, the entrepreneurial response leads the way.