

The Rise of the “Practical Arts”

STEVEN BRINT

The major interpretations of the development of the American university focus on knowledge production and the service faculty provide to society through the generation of new ideas and expert advice (Geiger, 1986, 1993; Kerr, 1964; Veysey, 1965). More recent interpretations have maintained these emphases, while focusing also on the significance of increasing business influence on knowledge production (see, for example, Slaughter and Leslie, 1997). However, if we shift our attention from the research to the teaching activities of the undergraduate college, a different picture takes shape. That picture is of the gradual shrinking of the old arts and sciences core of the university and the expansion of occupational and professional programs.

Students of the urban economy have shown that functions once considered ancillary to the main economic activity of the city often become part of the economic core at a later period. Thus, light manufacturing, legal services, and financial services in New York all grew initially out of the activities surrounding shipping in and out of the port of New York (Hoover and Vernon, 1959). Something analogous has occurred in the City of Intellect. Activities considered ancillary in an earlier age have moved to the center and have become leading engines of growth.

To be sure, the professional studies university has nowhere cast the arts and sciences university entirely in its shadow. The two coexist—and with many complementarities. Indeed, I will argue that the one of the more surprising outcomes of the rise of the practical arts is not *how much*,

are the main focus of this volume. At the same time, the rise of the practical arts has had important consequences for these universities, quite apart from its effects on the distribution of courses and enrollments. Some of these consequences are predictable, others less so. They include: support for the ethos of student utilitarianism, support for faculty entrepreneurship, and support for "social partnership" models of problem solving. These consequences also include migration of arts and sciences faculty toward professional schools and indeed the migration of whole disciplines toward the professional school model, the increased vulnerability of small arts and sciences disciplines, and increased emphases within colleges of arts and sciences on interdisciplinary program development.

A New "Practical Arts" Core?

By the liberal arts, I mean the basic fields of science and scholarship housed in colleges of arts and sciences—physics, chemistry, history, English, political science, and others. By the practical arts, I mean occupational and professional programs often housed in their own schools and colleges—business, engineering, computer science, nursing, education, and other fields oriented to preparing students for careers.

The academic year 1969–70 was the last year in which a majority of American four-year college and university students graduated from arts and sciences fields.¹ Over the next fifteen years, occupational fields gained significantly as compared to arts and sciences fields, with nearly two-thirds of degrees awarded in occupational and professional fields by 1985–86.² The liberal arts rebounded from their nadir in the mid-1980s, but a decisive majority of degrees have continued to be awarded in occupational fields; in 1997–98, more than 58 percent of bachelors' degrees were awarded in occupational fields. Occupational and professional degrees have long dominated at the postbaccalaureate level (even if the arts and sciences category is expanded to include all doctorate degrees), but today they dominate to a far greater extent than before. In 1970–71, practical arts fields accounted for approximately two-thirds of all graduate degrees; today they account for nearly 80 percent.

At the undergraduate level, the fastest-growing degree fields include a number that barely existed thirty years ago. Protective services and computer and information systems both experienced a tenfold growth be-

rienced a fivefold growth; and communications grew three times larger. Protective services involve programs for training police and other security personnel. Fitness, recreation, and leisure studies include a variety of programs training people to work in recreational areas or in travel and tourism. Few people in 1970 would have considered these “true” professional fields. Engineering technology—more a technicians’ occupation than engineering itself—has doubled in size since 1970–71, as have degrees in public administration and many health professions. Some of these programs are not intrinsically connected to higher education by virtue of the cognitive skills demanded by their work. Instead, their rapid growth indicates that higher education is deeply involved in monitoring potential markets for educated labor.

The first adopters of new occupational programs are typically second-tier research universities that have both the resources and incentives to reach out to incorporate training for emerging white-collar occupations. Institutions such as Florida State University, Wayne State University, and Syracuse University have been among the leaders in the creation of new fields.³ These institutions have been attentive to occupations of high market demand and acceptable social status that can be constructed, in collaboration with aspiring groups of practitioners, to include all of the institutional forms of academic professionalism—notably, an abstract vocabulary, scholarly journals, and a curriculum that can be accredited. Once a field has been accepted by as few as fifty institutions, its place in the curriculum leading to the baccalaureate degree is likely to be secure (Hashem, 2002).

As Table 9.1 indicates, over the last three decades the fast-growing fields have been occupational in virtually every case. The fastest growing of all has been business, which now accounts for some one-fifth of all undergraduate degrees—up from one-seventh in 1970–71. As Clifford Adelman (1995: 229) observed, business became in the 1980s the “empirical core curriculum.” By contrast, over the period only four liberal arts fields grew relative to other fields. Two of these fields—psychology and life sciences—are closely linked to health occupations. The other two are “liberal/general studies” and “interdisciplinary studies.” These latter two—still quite small in numbers of graduates—illustrate one facet of another interesting trend in academe: the slow and still very limited erosion of disciplinary boundaries in the liberal arts.⁴ Performing and visual arts, halfway between liberal and occupational fields, have also grown a

TABLE 9.1

*Growing, Stable, and Declining Degree Fields, 1970-95**A. Bachelor's Degree Fields*

A. Growing fields	B. Stable fields	C. Declining fields
<i>I. Fields with Fewer than 1% of BA/BS Degrees in 1995-96</i>		
Law/Legal Studies	Architecture	Library Science
Transportation-Related Studies	Area/Ethnic Studies	Philosophy/Religious Studies
	Communications	
	Technology	
	Theology	
<i>II. Fields with 1-5% of BA/BS Degrees in 1995-96</i>		
Public Admin./Services	Agricultural Science	English Literature*
Visual/Performing Arts	Home Economics	Physical Sciences*
Communications		Mathematics*
Computer/Info Systems		Foreign Languages/Literature*
Parks/Recreation/Fitness		
Protective Services		
Liberal/General Studies		
Interdisciplinary Studies		
<i>III. Fields with More than 5% of BA/BS Degrees in 1995-96</i>		
Business	Engineering	Education†
Health Professions		Social Science/History†
Psychology		
Biological/Life Sciences		

B. Master's Degree Fields

A. Growing fields	B. Stable fields	C. Declining fields
<i>I. Fields with Fewer than 1% of Master's Degrees in 1995-96</i>		
Communications Tech.	Area/Ethnic Studies	Foreign Languages/Literature
Engineering Tech.	Home Economics	Philosophy/Religion
Law/Legal Studies		
Liberal Studies		
Interdisciplinary/Multi-disciplinary Studies		
Parks/Recreation/Fitness		
Protective Services		
<i>II. Fields with 1-5% of Master's Degrees in 1995-96</i>		
Communications	Agriculture/Nat. Resources	Biological/Life Sciences
Computer/Information Sciences	Theology	English Literature
Psychology	Visual/Performing Arts	
	Architecture	Library Science
		Mathematics
		Physical Sciences
		Social Science/History

TABLE 9.1 — cont.

A. Growing fields	B. Stable fields	C. Declining fields
<i>III. Fields with More than 5% of Master's Degrees in 1995–96</i>		
Business Administration	Engineering	Education
Health Professions		
Public Administration/ Services		

SOURCE: Computed from NCES, 1998: 282–23.

*Decline in both absolute and relative terms for all four fields.

†Decline in both absolute and relative terms for both fields.

Virtually every other liberal arts and sciences field has declined not only in relative but also in absolute terms. It is important to emphasize this point, because the higher education system is now substantially larger than it was in 1970–71. More than 1.1 million students graduated with bachelors' degrees in 2000–2001, compared to about 840,000 in 1970–71. Under these circumstances, it is not easy for a field to decline in absolute terms, however poorly it may fare in competition with other fields. So, let me say again with emphasis: *During a period in which the system grew by 50 percent, almost every field which constituted the old arts and sciences core of the undergraduate college was in absolute decline. This includes not only all of the humanities and social sciences (except psychology and economics) but also the physical sciences and mathematics.* One could say that all of the traditional liberal arts fields, except those closely connected to health and business careers, have a receding profile in today's universities.

By contrast, only two professional fields have experienced relative declines: library science and education. An important source of change in education has been the upgrading of standards for teacher training in several states, including California and Massachusetts, where prospective teachers are required to major in an academic discipline and to take courses in education programs only in their fifth year for purposes of certification. For its part, library science has been losing out to computer science for jurisdiction over the organization and distribution of information.

Broadly similar patterns can be described at the masters' and doctoral levels. The growing fields at the masters' level are occupational and professional—with the exception of psychology and the various "blended" programs (such as liberal studies, interdisciplinary and multidisciplinary studies, and ethnic studies). The declining fields are those in the tradi-

tional arts and sciences—this time including biological and life sciences. Business administration now rivals education for the top spot in masters' degree production, and the top seven degree-producing fields are now all occupational; indeed, computer science will soon supplant the combined social sciences as the eighth largest field at the masters' level. Because the growing fields at the undergraduate and masters' levels require faculty to teach them, doctoral production closely parallels production at the bachelors' and masters' levels; the same fields growing at the bachelors' level are also growing at the doctoral level.

Beginning during the depressed college labor market of the early 1970s (Freeman, 1976), shifts in enrollments have been encouraged by a vastly larger number of students vying for a less rapidly growing number of good careers. From these new enrollment patterns arises the prevailing wisdom: "[In] recent decades, students . . . have been oriented chiefly toward gaining useful skills and knowledge rather than to membership in a cultural elite" (Trow, 1998: 1), and the familiar but nevertheless arresting statistic showing that the proportion of college freshmen interested in attending college to develop a "meaningful philosophy of life" dropped by 45 percent in the period between 1967 and 1987, while the proportion interested in attending to "become well off financially" grew by 40 percent over roughly the same period (Astin, 1998).

When specific growth fields are considered, theories of postindustrial society fare relatively well, as do theories emphasizing postmaterialist trends in cultural life. The landscape described by the data show the increasing popularity of business and business service fields; the advent of mass computing; and the growth of health fields, entertainment, and other quality-of-life concerns. But to explain the patterns fully postindustrial and postmaterialist theories would require revision to account for the increasing importance of government social control and administrative activities, and for the extension of higher education deeply into fields previously occupied by less well educated technicians and front-line bureaucrats. Far from fading away, occupational fields connected to the state have grown more important. New fields, which would have been considered semiprofessional at best in earlier generations, have also entered higher education.

Changes in enrollments and curricula do not, of course, simply reflect changes in the occupational structure in a one-to-one correspondence. In the first place, access to many professional and managerial occupations is not tightly controlled by the credentialing system. Although they may

help, degrees are not required to obtain jobs in such fields as computer science, business management, communications, or even education during periods of teacher shortage. Courses of study connected to these jobs would be significantly more important within colleges and universities if access to them depended in all cases on credentialing in the relevant occupational specialty. In addition, the demand for courses of study among students differs significantly from the demand for college-educated workers among employers. Colleges and universities create their own organizationally based demand through prescription of general education requirements. Some colleges and universities, particularly the more elite schools, also choose to limit occupational/professional degree programs at the undergraduate level. The demand for courses may also be influenced by the difficulty of the field, the intellectual capacities of students, and the psychic satisfactions associated with particular fields of study. Today many fields high in psychic satisfaction are closely connected to student interests in forms of personal expression. In this regard, it is instructive to compare the fate of engineering and the performing arts over the last thirty years. Enrollments in engineering, a high labor demand field, have remained generally stable, while enrollments in performing and visual arts, low labor demand fields, have grown substantially. Similarly, enrollments in psychology programs greatly exceed the market demand for psychologists, therapists, and counselors, and reflect the personal discovery interests of many students.

Nevertheless, the university's relative autonomy from the occupational class structure—its propensity to operate on a set of compatible but distinct principles involving judgments about culturally significant forms of knowledge—has been substantially reduced over the last thirty years. Administrators, at least those outside the elite institutions, no longer assume the unquestioned centrality of scientific and humanistic culture, and the old triumvirate of the natural sciences, the social sciences, and the humanities have all experienced a declining appeal. From an historical perspective, this is a striking change. Only a generation ago, UC Berkeley Professor T. R. McConnell, a well-known consultant and influential commentator on higher education, observed: "Many of (the) professional schools still do not feel at home in the university, and the university does not feel comfortable with them. . . . When the university and the professional school strengthen and support each other . . . the professional school will not only be 'in the university'

257, 261). Clearly, the “practical arts” have come a long way in a generation—so much so that it is no longer always clear which are the “central and fundamental disciplines” in the eyes of university administrators.

Consequences

Occupational and professional programs have moved closer to the center of academic life partly because they have modeled themselves on the arts and sciences—developing similarly abstract vocabularies, similarly illuminating theoretical perspectives, and similarly rigorous conceptual schemes (see, for example, Schlossman and Sedlak, 1988). If the liberal arts have been dethroned, they have been usurped by a claimant whose principles and bearing show striking similarities to those of the previous rulers.

But have the arts and sciences really been dethroned? Survey data suggest some reasons for skepticism. The majority of arts and sciences faculty at American universities do not portray themselves as alienated. Fewer than one in five say that the phrase “at odds with the administration” is “very descriptive” of circumstances at their institutions, and the great majority consider themselves “satisfied” or “very satisfied” with their jobs (Finkelstein, Seal, and Schuster, 1997: 58–59). At Research I universities, arts and sciences faculty are as satisfied as their colleagues in professional schools, and humanities and social sciences faculty are, rather surprisingly, the most satisfied of all.

One reason may be that employment conditions in the arts and sciences have not suffered as much as one might expect given the changing student enrollment patterns. It is true that the proportion of faculty in the arts and sciences has declined relative to the proportion of faculty in occupational and professional programs. Yet at a time in the later 1980s and early 1990s when three-fifths of undergraduate degrees (and three-quarters of graduate degrees) were awarded in professional programs, almost half of new hires continued to be in arts and sciences fields (*ibid.*: 22). Moreover, adjusting for inflation, tenure-track faculty salaries in the arts and sciences rose in the 1980s and 1990s (Scott and Bereman, 1992), and faculty in all fields have been more likely in recent years than in the 1970s and 1980s to rate their salaries as “good” or “excellent” (Finkelstein, Seal, and Schuster, 1998: 59). Nor have the work conditions of faculty suffered significantly. At both doctoral-granting and research univer-

sities, arts and sciences faculty hired in the late 1980s and early 1990s spent somewhat less time teaching than their more senior colleagues—and they taught less at a comparable stage in their careers than their predecessors of an earlier academic generation (*ibid.*: 65–67).

DIFFERENCES BY TIER AND SEGMENT

Even so, the answer to the question, *Have the arts and sciences been dethroned?* depends on where one looks among the large number of universities in the United States. The Carnegie Foundation classification scheme until recently grouped universities into three major categories: Research Universities, Doctoral-granting Universities, and Comprehensive (or master's-granting) Universities. The rise of the practical arts has led to impressive changes at most of the more than six hundred doctoral and comprehensive institutions. Here enrollments have shifted dramatically toward the practical arts, and liberal arts faculty have in many cases become primarily providers of distribution requirements for students in departments and schools of professional studies. Without the protection of distribution requirements, arts and sciences faculty at institutions such as Central Michigan University, San Jose State University, Sam Houston State University, and the University of Massachusetts-Boston would shrink to a small cadre. At these institutions, senior faculty in the arts and sciences do show comparatively high levels of dissatisfaction. This dissatisfaction may reflect, at least in part, a sense of status incongruity among professors who were trained during a period when the arts and sciences formed the undisputed disciplinary core of the system.

The story is different and more complex, however, in the country's research universities, which are the main focus of this volume. Among the research universities, the movement over time has been in one of two directions—either toward a pattern of many relatively equal parts—the multiversity of Clark Kerr's vision—or toward a continued focus on the arts and sciences as the undergraduate core of the university. Multiversities can be distinguished from liberal arts universities by the number of fields—and particularly the number of applied fields—in which baccalaureate degrees are offered.⁵

Harriet Morgan's (1998) analysis of curricular change between 1966 and 1992 indicates a growth in both the multiversity and the liberal arts university categories. Among research universities, multiversities outnumber liberal arts universities by a ratio of approximately two to one.

Multiversities are most common among the public land-grant institutions, particularly those in the Midwest, the mountain states, and the South, and in urban private universities serving upwardly mobile student populations. Thus, the University of Arizona, the University of Nebraska, the University of Florida, Temple University, and the University of Cincinnati are examples of multiversities. By contrast, the liberal arts university model predominates among the most prestigious research universities, including both the elite privates and the flagship campuses of the leading public land-grant institutions. The great majority of the fifty leading research universities fall in this category. Duke, Northwestern, UC-Berkeley, the University of Virginia, and Yale all fall in the liberal arts university group.⁶ Occupational and professional training is typically highly restricted for undergraduates at these elite universities. This restriction is a consequence of value commitments linked to status, and it ensures that undergraduates focus their professional aspirations on the graduate level.

Quantitative changes in enrollments are only one measure of changing centrality; the more elusive criterion of prestige is another and frequently far more important measure. Undoubtedly the arts and sciences stand at the highest levels of prestige at liberal arts universities, together with graduate schools of business, law, and medicine. Even at multiversities, however, where student enrollments and faculty appointments have increased the quantitative strength of occupational fields, the arts and sciences colleges often rank highest in prestige.

THE CONTINUING STRENGTH OF THE ARTS AND SCIENCES

Some sources of the continuing strength of the arts and sciences at research universities are obvious enough. The distinctive mission of research universities is to conduct research, and the arts and sciences are the original sources of this mission. Among these universities, membership in prestigious organizations such as the Association of American Universities requires demonstration of a well-balanced scholarly and scientific eminence. The natural sciences are a particularly important source both of prestige and revenues for all research universities because of the grants they generate. Support for them seems secure, regardless of trends in undergraduate enrollments. It should be noted too that, even in multiversities, the arts and sciences are an important element in enrollment

management. Arts and sciences faculty offer an indispensable array of service courses for students in all fields. In addition, students who do not perform well in fields where projected incomes are high (or do not have interest in these fields) must have some place to go. Some of these destination fields are in the “soft” humanities and social sciences; others are in the schools of the so-called minor professions, such as communications, education, and social work (Glazer, 1974).

Some less obvious reasons also exist for the continued importance, even centrality, of the arts and sciences in research universities. The most consequential of these have to do with the priority placed by professors in all fields on the more purely intellectual side of academic life, and with the disproportionate influence on university governance exercised by administrators and faculty drawn from the arts and sciences. Because these strengths are not always appreciated by contemporary observers of the “market-driven university,” I will discuss them at somewhat greater length.

Cultural Prestige. The university would be a very easy institution to analyze if its only source of strength lay in its connection to high-income occupations. But this is manifestly not the case. The prestige of academic fields reflects their cultural distinction at least as much as their value in the labor market (see Bourdieu, 1984, 1988).

Faculty in the arts and sciences bring attention to the university in ways that are not easily duplicated by faculty in occupational and professional fields. The most prestigious academic bodies are connected to the arts and sciences: the National Academy of Sciences, the American Academy of Arts and Sciences, the American Council of Learned Sciences, the MacArthur and the Guggenheim fellowships. These are the institutions that tend to speak for the values of higher education at the most elite levels. All are dominated by people trained in the arts and sciences. Similarly, studies of intellectual life show that authors of articles in the most prestigious general intellectual periodicals, such as the *New York Review of Books* and the *New York Times Book Review*, are likely to be either journalists or professors in the humanities and social sciences. Faculty in professional fields are not well represented (Brint, 1994: chap. 7). Not surprisingly, while public figures rely on technical experts drawn from a variety of fields to help develop and assess policies, they rely almost exclusively on liberal arts faculty and writers influenced by them to define broader themes and to suggest proper contexts for understanding.

forms of analysis, whether in verbal or mathematical expression. Their theoretical and methodological skills encourage the continuing centrality of the liberal arts within the university. They allow for the creation of new knowledge. And they tend, however unevenly, to influence the conduct of research in the professional schools and occupational programs. Law is a rather self-enclosed system, but even many law professors have adopted approaches that combine case analysis with the tools of the humanities and social sciences. Faculty members in other professional schools remain still more dependent on faculty in basic fields. Professors in business rely overwhelmingly on economists and other social scientists for providing theoretical and methodological tools. Professors in engineering draw on the work of physicists and mathematicians for similar reasons. Professors in education meld practitioner knowledge of schools with the tools of the humanities and the social and behavioral sciences. And clinical faculty members in medical schools rely on the knowledge of biologists, microbiologists, and biochemists, who form their basic science faculties. Because they are less deeply involved, in general, in the fundamental theoretical and methodological questions of their disciplines, faculty in the professional schools may enjoy very high standing outside the university, while remaining mindful of the intellectual status of the arts and sciences disciplines, particularly those most closely connected to their work.

Nor would it be wise to underestimate the university's commitment to encouraging students' intellectual development through study of the liberal arts. Many faculty and administrators, including a great many in professional schools, continue to agree with a traditional justification for the centrality of the arts and sciences in undergraduate studies: that they provide superior opportunities for the development of the thinking abilities that mark a broadly capable, rather than simply a technically proficient, mind. These thinking abilities include the capacities to understand logical relations and abstract languages, to make meaningful discriminations, to develop empathy, to appreciate the interplay between the particular and the general, to understand the rhetoric and structure of arguments, to perceive and evaluate context, and to develop skills in building evidence in support of a position. Roger Geiger's conclusion of two decades ago therefore continues to ring true to many faculty and administrators: "[S]haping the intellectual maturation of young people and widening their cultural horizons has traditionally been the strength and the

mission of American undergraduate education. . . . If [this source of strength and mission falls into disfavor], the vitality of intellectual life throughout the broad middle of the academic hierarchy will deteriorate badly" (1980: 54).

Participation in Governance. Participation in governance is another less obvious factor that may help to explain the continuing strength of the arts and sciences. We know that the backgrounds of top executives can influence the climate of the firms they lead (Useem, 1989). If this is true in corporations, is it not likely to be true a fortiori in colleges and universities?

The number of college and university presidents from nonacademic backgrounds has grown significantly over the last thirty years, but these top administrators are still primarily recruited from either the arts and sciences or education (American Council of Education, 2000). Doctoral-granting institutions, including research universities, are far more likely than the rest of higher education to have presidents trained in a liberal arts rather than a professional field.⁷ The difference a degree field makes should not be overemphasized. All academic leaders are required to assess overall institutional interests—the opportunities, benefits, and costs of moving in one direction or another relative to the actions of their relevant comparison institutions. Nevertheless, within these constraints, it seems likely that disciplinary backgrounds predispose many, and perhaps most, presidents and provosts to see the particular virtues of the fields and colleges closest to their own (compare Kraatz and Zajac, 1998).

Patterns of faculty involvement in governance may be at least equally important. Although the influence of faculty senates is limited today, participation in the political process on campus remains a factor in shaping agendas and policy decisions. By serving on committees and by taking an active role in the politics of university decision-making, arts and sciences faculty put themselves in a position to interact on collegial grounds with administrators, to protect their priorities, and even to help select new university leaders.

Faculty in the arts and sciences may be more likely than those in professional programs to consider the university "theirs" and to participate in academic senate and other governance activities. As a way to begin to test this proposition, I conducted a study of participation as chairs of academic senate standing committees on seven of the University of California's nine campuses, excluding only the San Francisco campus,

TABLE 9.2
Background of College and University Presidents, 1986 and 1998
 (percent)

Field	Public		Private	
	1998	1986	1998	1986
<i>Doctorate-Granting</i>				
Liberal Arts*	52	60	50	57
Education	9	10	6	12
Religion/Theology	0	0	11	9
Other Professional†	39	30	33	22
<i>Master's-Granting</i>				
Liberal Arts*	48	50	41	47
Education	28	37	29	30
Religion/Theology	0	1	12	13
Other Professional†	22	12	19	10
<i>Baccalaureate-Granting</i>				
Liberal Arts*	53	54	44	48
Education	32	26	30	28
Religion/Theology	0	3	10	16
Other Professional†	13	12	17	8

SOURCES: American Council on Education, 1995: 101, 107; American Council on Education, 2000: 67.

*Liberal arts includes biological sciences, physical sciences, social sciences, humanities, and fine arts.

†Other professional programs include agriculture, engineering, medicine, other health professions, law, and nonspecified professional fields.

which is exclusively medical, and the Santa Cruz campus, which has no professional programs. Such a study is only a beginning, but it suggests that the topic deserves further attention. In the three study years (1994-95, 1996-97, and 1998-99), arts and sciences faculty served as chairs on a majority of committees on all seven campuses. These faculty members served as chairs in a significantly higher than expected proportion at four of the seven campuses. On the other campuses, participation was approximately proportionate to the distribution of faculty between liberal arts and professional programs.⁸

NEW PRIORITIES IN THE UNIVERSITY

In spite of the continuing strength of the arts and sciences, it is clear that some important changes have occurred in the purposes and activities of research universities over the last thirty years. These include: (a) the rise of a utilitarian ethos among students; (b) the rise of faculty and uni

versity entrepreneurship; and (c) the extension of “social partnership” models in community relations. To what extent might the rise of the practical arts be related to these developments?

The curricular changes discussed in this chapter show a distinct affinity with each of these developments, but they have been by no means their only or primary cause. In some cases, they have not been a direct cause at all. The following developments show a much more direct relationship to these new priorities of the university:

—College attendance has become the norm rather than the exception; two-thirds of students aged eighteen to twenty-four (and an increasing proportion of older adults) now spend some time studying at a college or university.

—Throughout the 1970s and into the 1980s the relative share of state funding of public universities declined, leading to a markedly greater financial dependence on student tuition and fees, and on private gifts.

—Legislation passed in the early 1980s, particularly the Economic Recovery Act of 1981 and the Bayh-Dole Patent and Trademark Act of 1980, provided incentives for both universities and industries to deepen their collaborative involvements in research.

—The role of “big government” came under ideological attack in the 1970s and early 1980s, opening the way for the rise of smaller-scale collaborative solutions to problems of economic and social development.

Because the rise of the practical arts is but one source of support for the new social and economic priorities of the university, my argument in this section will be based on affinities, not on causality. I will argue that students and faculty in occupational and professional programs provide a constituency of support, and a growing one, for key changes in the university’s relation to society, but I will not argue that they have been a direct cause of these developments.

The Ethos of Utilitarianism among Students. The ethos of utilitarianism can be defined as the tendency of students to think of higher education primarily as a means to obtain credentials that will be valuable to them in the labor market. Responses to surveys show that students in occupational and professional programs are more likely than those in the arts and sciences to express utilitarian outlooks. As the data in Table 9.3 indicate, freshmen who expect to declare professional majors are 10 percent more likely than those who expect liberal arts majors to say that

Attitudes and Activities Related to Dimensions of Materialism and Service, University Freshmen and Faculty, by Academic Discipline Categories, 1998

(percent)

A. Freshmen attitudes*	Being very well off financially is essential or very important	Developing a meaningful philosophy of life is essential	Taking part in community action is very important or essential	Being a community leader is very important or essential
Expect Professional Major†	39%	14%	22%	35%
Expect Liberal Arts Major‡	29%	25%	29%	27%

B. Faculty attitudes/activities	Being well off financially is essential or very important	Spend one hour or more per week on free-lance consulting work	Spend one hour or more per week consulting patients or clients
Professional Disciplines§	45%	46%	29%
Liberal Arts Disciplines	33%	32%	10%

SOURCE: Higher Education Research Institute (1998a, 1998b).

All differences by discipline are significant at $p < .05$.

*The reported percentages are based on weighting to reflect the distribution of freshmen by expected majors.

†Professional majors include agriculture, business, education, engineering, and health professions.

‡Liberal arts majors include biological sciences, English, history/political science, humanities, fine arts, mathematics/statistics, physical sciences, and social sciences.

§Professional disciplines include all departmental affiliations in agriculture and forestry, business, education, engineering, health sciences, and "other technical" disciplines.

||Liberal Arts disciplines include all departmental affiliations in biological sciences, English, humanities, fine arts, mathematics and statistics, physical sciences, and social sciences.

percent less likely to say that developing a meaningful philosophy of life is essential.

Faculty members teaching in occupational and professional programs tend to support the practical, job-oriented interests of students. They are much more likely than liberal arts faculty to say, for example, that being well off financially is essential or very important to them. They are also significantly more likely to supplement their incomes with outside consulting or consultation with clients and patients.⁹

Entrepreneurial Activities among Faculty. Higher education scholars have used the term "entrepreneurial" in a variety of ways. I will focus on the efforts of universities and individual faculty to capitalize on research discoveries. These efforts to profit from research include partnership arrangements with industries for support of potentially profitable research, patent and licensing activity, and the creation of faculty and graduate student spin-off firms.

TABLE 9.4

*Disciplines Represented in University-Industry Research
Center Research Activities, 1990*

	Percent of UIRCs in which discipline is represented in re- search activities	Number of UIRCs
<i>Natural Science Disciplines</i>		
Chemistry	39	192
Biology	34	169
Physics	24	120
Geology/Earth Sciences	20	91
Mathematics	11	54
<i>Professional Schools/Programs</i>		
Materials Engineering	34	171
Electrical Engineering	32	159
Mechanical Engineering	31	155
Materials Science	29	145
Chemical Engineering	28	137
Computer Science	26	130
Agricultural Sciences	21	106
Civil Engineering	21	103
Medical Sciences	19	93
Industrial Engineering	18	87
Aeronautical/Astronautical Engineering	12	58
Applied Math/Operations Research	12	57
TOTAL N		497

SOURCE: Cohen, Florida, and Goe, 1994: 14.

NOTE: Only disciplines represented in 10 percent or more of the UIRCs are reported in this table.

Walter Powell and Jason Owen-Smith's chapter in this volume indicates how much of the recent activity in patenting and licensing is concentrated in the applied biomedical sciences. Indeed, these disciplines are the center of many forms of entrepreneurial activity in the university. Studies of university faculty engaging in collaborative research with industry show a compatible but slightly different picture. According to the studies of Wesley Cohen and his colleagues, chemistry and biology are the disciplines most likely to be represented in university-industry research centers (UIRCs). However, if one looks at the disciplines represented in at least 10 percent of the UIRCs in Cohen's sample, profes-

sional disciplines, such as engineering and agriculture, outnumber basic science disciplines by two to one (Cohen et al., 1998).¹⁰ (See Table 9.4.)

Social Partnerships. Less frequently noted has been the rise of community service and social partnership arrangements on campus (Newman, 1985). These activities include “service learning” opportunities and broader institutional commitments to community development. The University of California, Berkeley, for example, currently lists more than three hundred community-serving activities of various types. These activities include: volunteer and charity work and charitable donations; educational outreach activities; research specifically designated as oriented to public service; and community economic development activities. In many research universities, both public and private, community and civic activity extends from relatively large-scale community development and public research activities to “bite-size” programs, such as computer and furniture donations, the provision of extra street-sweeping and “safety ambassadors” in surrounding neighborhoods, and small-scale job training programs for local residents (Brint and Levy, 1999: 183–85).

According to the most recent survey by Campus Compact, five of the top ten “service-learning” disciplines are professional: education, social work, business, communications, and nursing. Two others—psychology and biology—attract many students planning careers in counseling and the health professions (Campus Compact, 1998: 41, 197). These data may reflect at least a weak affinity between the ethos of professionalism and the growing significance of social partnership activities in academe. The ethos of professionalism, after all, encourages engagement with practical problem-solving in the world, rather than detachment.

Additional support comes from national faculty data. In 1998 university faculty teaching in professional programs were more likely than their colleagues in the liberal arts to say they spent at least one hour per week on community or public service (71 percent of occupational and professional faculty, compared to 60 percent of liberal arts faculty). They were also more likely to agree strongly that colleges should encourage students to participate in community service activities. Business faculty were more likely than humanities faculty to take these positions, and engineering faculty were more likely than natural science faculty to take them. The differences here are not large, but they are at least mildly supportive of the argument that affinities exist between the rise of the practical arts and university-community partnerships.

NEW PRIORITIES AND PRACTICES IN THE LIBERAL ARTS

Even at the leading research universities, arts and sciences departments often feel themselves to be under-supported. The temptation is great to consider one's own field under special duress, while others thrive. But mathematics does not prosper while English languishes. The pressure is in fact quite general in the arts and sciences disciplines, and it is connected to the growing significance of the practical arts.

This pressure has led to a number of consequences for colleges of arts and sciences. Among the most important of these are: (a) the migration of individual faculty and even whole fields in the direction of professional preparation; (b) the increased vulnerability of the smaller arts and sciences fields; and (c) the growth of interdisciplinary programs in the arts and sciences—a phenomenon likely to become still more important in the future.

Migrations of Faculty and Disciplines. If growth is greater in occupational and professional programs, arts and sciences faculty will have incentives to migrate to those programs, because of the greater number of positions available and sometimes also because of the higher salaries offered. Tables 9.5 and 9.6 examine the academic origins and destinations of faculty in two survey years, 1969 and 1992.¹¹ The data show that more movement exists in virtually all fields in 1992 than in 1969.

In the earlier academic generation, people trained in the arts and sciences were particularly unlikely to move from their home disciplines. But when they did move, they typically moved into professional programs. Today fewer faculty members trained in the arts and sciences remain in their home disciplines, and the amount of increased movement into professional programs is roughly proportionate to this decline in the proportion of those who stay in their home disciplines. Major changes have also occurred among faculty trained in professional schools. In the previous academic generation, people trained in professional programs were also more likely to remain in their home disciplines than they are today. When they did move, they tended to move into associated disciplines in the arts and sciences. For example, doctorates in engineering sometimes moved into natural science departments, and doctorates in education sometimes moved into the humanities or social sciences. Today the net

TABLE 9.5
Academic Origins and Destinations, 1969 and 1992

(percent)

I. All Full-time Faculty: 1992

Academic origin: professional	Academic destination			
	Same field	Other professional*	Letters and sciences	Other fields†
Agriculture/Home Econ.	59.3	15.0	24.5	1.1
Business	68.6	19.6	10.3	1.5
Education	79.7	8.3	10.9	1.1
Engineering	79.3	8.8	9.7	2.1
Health Sciences	76.3	14.1	8.9	.5
Other Professional	71.2	12.1	15.0	1.7

Academic origin: letters and sciences	Same field	Other letters and sciences	Letters and sciences	Other fields†
Fine Arts	89.8	4.1	4.9	1.2
Humanities	85.3	3.8	10.3	.7
Natural Sciences	83.3	2.0	14.4	.3
Social Sciences	83.1	3.8	12.6	.5

II. All Full-time Faculty: 1969

Academic origin: professional	Academic destination			
	Same field	Other professional*	Letters and sciences	Other fields†
Business	67.3	17.8	13.7	.3
Education	87.9	2.2	9.6	.2
Engineering	83.1	5.5	9.3	-
Health Sciences	82.9	6.3	9.6	.2
Other Professional	81.2	7.5	9.3	.1

Academic origin: letters and sciences	Same field	Other letters and sciences	Letters and sciences	Other fields†
Fine Arts	92.0	2.9	4.2	.1
Humanities	94.1	2.3	3.2	.1
Natural Sciences	90.8	.9	7.8	-
Social Sciences	88.0	3.6	7.8	.2

SOURCES: Carnegie Foundation for the Advancement of Teaching Faculty Survey, 1969; National Survey of Postsecondary Faculty, 1993.

*"Other Professional" includes architecture and environmental design; city, community, and regional planning; interior design; advertising; communications and communications technologies; law; library science; parks and recreation; theology; protective services; public affairs; and science and engineering technologies. Agriculture and home economics are included in this category in 1969 only.

†"Other Fields" includes all fields otherwise uncategorizable. These include many fields that would at one time have been considered preparation for blue collar or lower white collar occupations, such as industrial arts, construction, personal service, repair, precision production, and transportation-related fields.

TABLE 9.6
Professional Migration Ratios

	1992	1969
Agriculture/Home Economics	-9.5	NA
Business	+9.3	+4.1
Education	-2.6	-7.4
Engineering	-.9	-3.8
Health Sciences	+5.2	-3.3
Fine Arts	+.8	+1.3
Humanities	+6.5	+.9
Natural Sciences	+12.4	+6.9
Social Sciences	+8.8	+4.2

SOURCES: See Table 9.6.

NOTE: Professional Migration Ratio = percentage movement into professional - percentage movement into arts and sciences. A positive ratio indicates net movement into professional programs. A negative ratio indicates net movement into arts and sciences.

movement of doctorates in business and health sciences has been toward other professional programs, while doctorates in education and engineering remain slightly more likely to move into the arts and sciences. But even in the latter cases, the proportion moving into the arts and sciences is now substantially lower than in 1969. Overall, this is a picture of a faculty less anchored to its fields of origin and one that has been increasingly attracted to teaching in occupational and professional programs.¹²

Perhaps more surprising than the migration of individual faculty has been the migration of whole disciplines and specialty areas within disciplines toward professional organization. Perhaps the most notable examples of this trend are psychology and chemistry. Psychology has long been divided between researchers and clinicians, but with the arrival of the licensing of clinical psychologists, the major part of psychology has been transformed into a professional field. Chemists have eschewed occupational licensing, but they increasingly market themselves as a field providing training for positions in chemical-based industries.

Professionalization can also occur through a splitting of tracks within departments and majors. At some institutions economics has become a substitute business major for the great majority of students, while remaining a basic social science field for the minority of students with public policy and academic interests. In sociology, criminology and social welfare tracks are sometimes organized as professional programs

while the major itself remains academic. In political science, public affairs and international relations have become professional tracks at some institutions, while the subdisciplines of political theory, American politics, and comparative politics remain academic.

The Increased Vulnerability of Small Fields. The research thus far on program closings and mergers suggests that the fields most likely to suffer in a competitive environment are those involved in public sector social welfare activities (Gumport, 1993; Morphew, 1998; Slaughter and Silva, 1985). It seems likely that these are not the only fields to face dimmer prospects in an environment in which occupational training programs are increasingly important. Very small fields are likely to be vulnerable, too, unless they are staffed by unusually distinguished faculty or so rare as to be virtually one of a kind.¹³ Reliable data do not exist about departmental cutbacks, consolidations, and closings nationwide, but the existing evidence suggests that small departments in area studies and foreign languages have been vulnerable (see, for example, National Council of Area Studies, 1991). The same may be true of some other humanities disciplines. The number of philosophy departments, for example, appears to have declined since the mid-1970s (Philosophy Documentation Center, 1974-95).

In most cases, the issue is not elimination but reduction through attrition and budgetary cutbacks. Administrators can encourage the consolidation of smaller fields by proposing "integrated" majors involving a number of related, small fields. Some small universities with low science enrollments, for example, have adopted integrated natural science majors. Under pressure, scholars in small fields sometimes themselves seek affiliation with larger departments. Thus, archaeologists rarely attempt to make a go of it outside of anthropology departments, and classicists have in some cases transformed themselves into experts in comparative ancient civilizations. Geneticists only rarely attempt to sustain departments separate from other biological sciences (National Center for Educational Statistics, 1998: 285-92).

The Rise of Interdisciplinary Programs. Statistics on degrees awarded indicate a small to moderate increase in the number of interdisciplinary and multidisciplinary degrees awarded in recent years. These statistics do not do justice to the level of interest in interdisciplinary work in contemporary universities. Many universities, such as the University of Rochester and UCLA, have reorganized their general education curriculum to emphasize the contribution of several disciplines to the understanding of multidisciplinary topics. Foundations such as the Hewlett Foundation

have provided funds for these “cluster courses.” Liberal arts deans throughout the country have been promoting new research umbrella groups and the hiring of faculty who “improve two or three fields rather than one.” The new model college searches not for replacements to keep up with specialized fields, but for “synergies” across fields.

To a considerable degree, this remarkable interest in interdisciplinary work reflects a sense that the intellectual excitement lies at the boundaries of fields, rather than in the development of existing disciplinary specialties. The shifting intellectual frontiers in the biological and biomedical sciences and the perceived successes of interdisciplinary “cultural studies” programs have helped to fuel this sense of excitement. But budgetary exigencies may ultimately figure at least as prominently in the thinking of university administrators. As Lynn Hunt has observed, intellectual excitement is but one source of interest in interdisciplinary program development. “[I]nterdisciplinarity may only make the case that humanities faculty are all interchangeable and hence that many are expendable. Interdisciplinarity has tended to weaken the argument for . . . coverage . . . and might thereby facilitate downsizing” (Hunt, 1997: 28).

The ideology of interdisciplinary development substitutes coverage of new topics and approaches for coverage of specialized scholarly fields, the ethos of cross-fertilization for the ethos of specialization, and the politics of coalition-building among groups of enterprising faculty and key administrators for the politics of disciplinary authority. Perhaps this is why many believe that interdisciplinary programs are ultimately more likely to satisfy provosts than professors (Menand, 1997: 214). Yet for institutions focusing scarce resources on developing new professional programs, there may be little choice but to make the most of the current wave of enthusiasm for interdisciplinary work.

Conclusion

The sharp shift of student enrollments over the last thirty years from the arts and sciences to occupational programs represents an important change in American higher education. It is reasonable to ask whether these shifts have led the rise of a new “practical arts” core, replacing the old liberal arts and sciences core of the undergraduate college. The answer given in this chapter is that such an outcome is in fact evident at many master’s and doctoral-granting institutions, but that the situation is

sciences faculty have generally been able to maintain their centrality, due to the cultural prestige of their disciplines and perhaps also their greater propensity to participate in university governance, among other factors.

Nevertheless, some important changes have occurred in the wake of the shift of students toward the practical arts. These include: reinforcement of utilitarianism as the dominant ethos among students; contributions to the acceptability of faculty and university entrepreneurship; and encouragement of collaborative models for the solution of social problems. The rise of the practical arts has also encouraged migrations of faculty and even whole disciplines toward the occupational training fields, created new vulnerabilities among the smaller arts and sciences fields, and intensified interdisciplinary trends in the liberal arts.

As these changes unfold, opinion data suggest that humanists and scientists are more like one another than they are like professional school faculty on some important issues, such as levels of skepticism about administrators' motivations (arts and sciences faculty are more skeptical), support for intellectual over service commitments (arts and sciences faculty are more purely intellectual), and resistance to the ethos of the market (arts and sciences faculty are more resistant). Thus, the division in mentality represented by C. P. Snow's "two cultures" of science and the humanities is now crosscut, in limited but observable ways, by another line of cleavage dividing professors of the liberal and the practical arts. These tensions are one result of a shift in orientation that has allowed the City of Intellect to prosper even as its one-time center has moved to the periphery in some institutions and become but one of several competing nuclei in many others.

Notes

I would like to thank Andrew Abbott, John Barcroft, Michael E. Brint, Roger L. Geiger, Michael Nacht, Francisco O. Ramirez, Judith Wegener, and David Weiman for comments that improved the quality of this paper. I would also like to thank Maria Bertero-Barcelo, William Korn, Charles S. Levy, Shoon Lio, Mandy Liu, Harriet P. Morgan, and Mark Riddle for research assistance.

1. I have classified the visual and performing arts as liberal arts fields, and communications as an occupational field. At the graduate level, I have classified both of these fields as occupational. I have also classified virtually all other fields outside the humanities, social sciences, and natural sciences as occupational. These include such large and familiar fields as business, engineering, and educa-

tion. They also include fields such as agriculture and natural resources, computer and information sciences, and protective services. At the graduate level, I have compared occupational-professional degrees to a combined category of liberal arts and academic research degrees. This comparison makes intuitive sense insofar as we want to look at the hypothesized replacement of the old core of the university, involving basic scholarly and scientific research, with an hypothesized new core of programs preparing students for employment. In the occupational-professional category, I have included all occupationally oriented masters' fields plus all first professional degree programs. In the liberal arts and academic category, I have included all liberal arts masters' fields plus all doctoral fields. The major changes here are adding first professional degree programs—that is, degrees in theology, law, and medical areas—to the occupational-professional category (where they would belong in any event) and placing all research degrees (including those in fields such as business and engineering) as part of the liberal arts-academic research category.

2. I will concentrate on degrees awarded rather than enrollments, because of methodological problems surrounding the use of enrollments for comparing fields and change over time. Comparison of enrollments is particularly difficult because educational programs are organized differently at different schools and across fields. Some institutions begin enrollment in a professional college in freshman year, while others begin to count in the junior year. Typically when a program is organized in a separate school or college, enrollments include students in all four years. When the program is organized in a department or a college of arts and sciences, only the junior and senior years are reported. Enrollments are also less reliably reported to NCES than are degrees awarded. A few institutions fail to report enrollments; therefore, it is necessary to make estimates in order that the totals may take all institutions into account. For a detailed analysis of data on enrollments and degrees from 1970 through 1985, see Bowen and Sosa (1989).

3. Although most new fields begin at nonelite research universities, some new fields with links to prestigious established fields (computer science and legal studies are two examples) begin at more elite institutions (see Hashem, 2002).

4. Note that interdisciplinary studies does not include either area studies or ethnic studies, fields that have remained both small and relatively stable over the twenty-five-year period. Instead, it includes other sorts of interdisciplinary programs, such as Renaissance studies, environmental studies, comparative ancient civilizations, and politics, philosophy, and economics.

5. Based on a cluster analysis of degrees awarded by institution, Morgan (1998: 35–36) defines “multiversities” operationally as institutions offering master’s in education and business and law degrees, each of which account for more than 1 percent of degrees granted. In addition, they grant more than 1 percent of baccalaureate degrees in at least twenty-five different fields, eleven of them applied. She defines “liberal arts universities” as institutions granting more than 1 percent of degrees in each of several graduate and professional fields and, with

the exception of graduate-level professional education, granting degrees primarily in traditional arts and sciences fields. I will use this empirically based definition of patterns of differentiation among research universities.

6. I am grateful to Harriet P. Morgan for sharing the detailed results of her dissertation research. This section is drawn from an unpublished file of institutions from her cluster analysis of HEGIS/IPEDS degrees awarded data for the years 1966 to 1992. I have cross-classified her findings by Carnegie classification codes to describe changes in research universities during the period.

7. Even in the doctorate-granting institutions, men and women with doctorates in educational management have gained over the last decade in public institutions, moving from 10 to 18 percent of the total number of presidents sampled by the American Council on Education.

8. One can imagine two possible explanations for these findings. One is that the outward looking norms of professional life lead to a relatively lower level of interest in university governance. Another possibility is that busier faculty, whatever their fields, are less able to participate, and less interested. The particularly low level of participation of medical and business school faculty suggests that the second hypothesis may be closer to the mark.

9. Data exist on only one facet of student consumerism—the interests of students in practical, job-related courses of study. The desire of universities to maintain or improve the size and quality of their applicant pool has also greatly encouraged a buyer's market for college amenities. University funds have consequently been poured into recreation centers, food courts, student services, and building up other amenities of the campus and the areas surrounding the campus. On some campuses, the same level of effort may not attach to maintaining the rigor of educational standards, or even to ensuring that libraries are well stocked with books and journals.

10. The Cohen et al. (1994) data are based on a response rate of under 50 percent. Efforts to determine the representativeness of these data involved contacting a sample of nonresponding UIRCs. In comparing the two samples, Cohen and his colleagues found no significant differences in total annual budget, number of research and development projects, and number of companies providing support. However, UIRCs in the sample tended to dedicate significantly greater effort to research and development activities and less effort to education and training and technology transfer activities. Generalizations about national trends must be understood with these sample characteristics taken into account.

11. When examining field mobility data, it is important to keep in mind the extraordinary changes in the distribution of faculty over a generation. In 1969, some two-thirds of the surveyed faculty taught in arts and sciences departments. In 1992, the overall proportion was below 60 percent, and only 50 percent for faculty with "new" and "mid-level" faculty. These changes in the marginal distributions are not highlighted in Table 9.5, but they are an important context for evaluating the data in the table.

12. A comparison of cohorts in the 1993 data suggests that younger doctorates in the arts and sciences have been more likely to move from their home dis-

ciplines than senior faculty and that their movement has been in the direction of professional programs at roughly the rate that would be expected given their lesser tendency to stay put in their home disciplines. The patterns of movement among cohorts of doctorates from professional programs are more mixed, however, and seem to depend to a considerable degree on when education schools began to recruit faculty trained in business, health sciences, and other popular professional disciplines.

13. To investigate this possibility further, it might be assumed that fields producing fewer than one in a thousand baccalaureates annually are small and therefore vulnerable. These fields include virtually all area studies programs; botany, ecology, genetics, entomology, and physiology in the biological sciences; Chinese language and literature, Japanese language and literature, Eastern European languages and literatures, Scandinavian and Germanic languages and literatures, Middle Eastern languages and literatures, and classics in the humanities; mathematical statistics, astronomy, astrophysics, atmospheric science, oceanography in the physical sciences; archaeology and urban studies in social science; dance, painting, music history, and music theory and composition in the fine arts.

References

- Adelman, Clifford. 1995. *A New College Course Map and Transcript Files*. Washington, DC: U.S. Department of Education.
- American Council on Education (ACE). 1995. *The American College President: 1995 Edition*. Washington, DC: American Council on Education.
- . 2000. *The American College President: 2000 Edition*. Washington, DC: American Council on Education.
- Astin, Alexander W. 1998. "The Changing American College Student: Thirty Year Trends, 1966–1996." *Review of Higher Education* 21: 115–35.
- Bourdieu, Pierre. 1984. *Distinction*. Cambridge, MA: Harvard University Press.
- . 1988. *Homo Academicus*. Stanford, CA: Stanford University Press.
- Bowen, William G., and Julie Ann Sosa. 1989. *Prospects for Faculty in the Arts and Sciences: A Study of Factors Affecting Demand and Supply, 1987 to 2012*. Princeton, NJ: Princeton University Press.
- Brint, Steven. 1994. *In an Age of Experts: The Changing Role of Professionals in Politics and Public Life*. Princeton, NJ: Princeton University Press.
- Brint, Steven, and Jerome Karabel. 1989. *The Diverted Dream: Community Colleges and the Promise of Educational Opportunity, 1900–1985*. New York: Oxford University Press.
- Brint, Steven, and Charles S. Levy. 1999. "Professions and Civic Engagement: Trends in Rhetoric and Practice, 1875–1995." Pp. 163–210 in Theda Skocpol and Morris Fiorina (eds.), *Civic Engagement in American Democracy*. Washington, DC: Brookings Institution.
- Campus Compact. 1998. *Service Matters: Engaging Higher Education in the Renewal of America's Communities and American Democracy*. Edited by Michael

- Cohen, Wesley, Richard Florida, Lucien Randazzese, and John Walsh. 1998. "Industry and the Academy: Uneasy Partners in the Cause of Technological Advance." Pp. 171-200 in Roger Noll (ed.), *Challenges to Research Universities*. Washington, DC: Brookings Institution Press.
- Duffy, Elizabeth A., and Idana Goldberg. 1998. *Crafting a Class: College Admissions and Financial Aid, 1955-1994*. Princeton, NJ: Princeton University Press.
- Finkelstein, Martin J., Robert K. Seal, and Jack H. Schuster. 1998. *The New Academic Generation: A Profession in Transformation*. Baltimore, MD: Johns Hopkins University Press.
- Freeman, Richard. 1976. *The Overeducated American*. New York: Academic Press.
- Geiger, Roger L. 1980. "The College Curriculum and the Marketplace." *Change* (November/December): 17-23 ff.
- . 1986. *To Advance Knowledge: The Growth of American Research Universities, 1900-1940*. New York: Oxford University Press.
- . 1993. *Research and Relevant Knowledge: American Research Universities since World War II*. New York: Oxford University Press.
- Glazer, Nathan. 1974. "The Schools of the Minor Professions." *Minerva* 12: 346-64.
- Gumport, Patricia J. 1993. "The Contested Terrain of Academic Program Reduction." *Journal of Higher Education* 64: 284-311.
- Hashem, Mazen. 2002. "Academic Knowledge from Elite Closure to Public Caring: The Rise of New Growth Fields in American Higher Education." Unpublished Ph.D. dissertation, Department of Sociology, University of California, Riverside.
- Higher Education Research Institute (HERI). 1998a. *The American College Freshman: National Norms for 1998*. Los Angeles: Higher Education Research Institute.
- Higher Education Research Institute (HERI). 1998b. *The American College Teacher: National Norms for the 1998-99 HERI Faculty Survey*. Los Angeles: Higher Education Research Institute.
- Hoover, Edgar M., and Raymond Vernon. 1959. *Anatomy of a Metropolis*. Cambridge, MA: Harvard University Press.
- Hunt, Lynn. 1997. "Democratization and Decline? The Consequences of Demographic Change in the Humanities." Pp. 17-31 in Alvin Kernan (ed.), *What's Happened to the Humanities?* Princeton, NJ: Princeton University Press.
- Kerr, Clark. 1964. *The Uses of the University*. New York: Harper Torchbooks.
- Kraatz, Matthew, and Edward Zajac. 1998. "Executive Migration and Institutional Change." Unpublished paper, Kellogg School of Management, Northwestern University.
- McConnell, T. R., G. Lester Anderson, and Pauline Hunter. 1962. "The University and Professional Education." Pp. 254-78 in Nelson Hardy (ed.), *Education for the Professions*. Chicago: University of Chicago Press.
- Menand, Louis. 1997. "The Demise of Disciplinary Authority." Pp. 201-19 in Alvin Kernan (ed.), *What's Happened to the Humanities*. Princeton, NJ: Princeton University Press.

- Morgan, Harriet. 1998. "Moving Missions: Organizational Change in Liberal Arts Colleges." Unpublished doctoral dissertation, University of Chicago, Department of Sociology.
- Morphew, Christopher. 1998. "The Realities of Strategic Planning: Program Termination at East Central University." Unpublished paper, School of Education, University of Kansas.
- National Center for Educational Statistics (NCES). 1998. *Digest of Educational Statistics, 1998*. Washington, DC: Government Printing Office.
- National Council of Area Studies Associations. 1991. *Report from the National Council of Area Studies Associations*. Stanford, CA: National Council of Area Studies Associations.
- Newman, Frank M. 1985. *Higher Education and the American Resurgence*. Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.
- Philosophy Documentation Center. 1974–1995. *Directory of American Philosophers*. Bowling Green, IN: Bowling Green State University. Series.
- Schlossman, Steven L., and Michael Sedlak. 1988. *The Age of Reform in American Management Education*. Los Angeles: Graduate Management Admissions Council.
- Scott, Joyce A., and Nancy A. Bereman. 1992. "Competition versus Collegiality: Academe's Dilemma for the 1990s." *Journal of Higher Education* 63: 684–98.
- Slaughter, Sheila, and Larry L. Leslie. 1997. *Academic Capitalism: Politics, Policies, and the Entrepreneurial University*. Baltimore, MD: Johns Hopkins University Press.
- Trow, Martin. 1998. "From Mass Higher Education to Universal Access: The American Advantage." Unpublished paper presented at the North American and Western European Colloquium on Challenges Facing Higher Education, Glion sur Montaux, France, May 14–16.
- Useem, Michael. 1989. *Liberal Education and the Corporation*. New York: Aldine de Gruyter.
- Veysey, Laurence R. 1965. *The Emergence of the American University*. Chicago: University of Chicago Press.