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ABSTRACT

Undergraduate education in different postsecondary sectors is discussed in four articles on community colleges, state colleges, liberal arts colleges, and research universities. For each type of college, consideration is given to its history; value system; physical, financial, and human resources; and internal and external factors affecting excellence. In "The Community College in the American Educational System," Arthur M. Cohen considers transfer education and different missions of the college (i.e., graded education and quasi-educative services). Robert Birnbaum's paper, "State Colleges: An Unsettled Quality," argues that identity is a key issue for state colleges as they struggle to balance their role as "agencies of the state" and their commitment to academic values. The situation of the liberal arts college, which is no longer preeminent, is discussed by Allan O. Pfnister in "The American Liberal Arts College in the Eighties: Dinosaur or Phoenix?" According to Pfnister, shifting funding patterns will be especially hard on tuition-dependent small liberal arts colleges. In "Research Universities: Their Role in Undergraduate Education," Roger L. Geiger stresses the competition among the research universities and identifies three elements that distinguish research universities from other types of institutions. (SW)

Contexts for Learning

The Major Sectors of American Higher Education

Written for The Study Group on the Conditions of Excellence in American Higher Education

Essays by
Arthur M. Cohen
Robert Birnbaum
Allan O. Pfnister
Roger L. Geiger

Introduction by
Zelda F. Gamson

Published by the
National Institute of Education
in cooperation with the
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CONTEXTS FOR LEARNING:

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Introduction

The four papers in this collection were commissioned to assist the Study Group on the Conditions of Excellence in American Higher Education during our year of discussions, readings, and writings that became *Involvement in Learning*. From the beginning of our deliberations, the Study Group was aware that we would find it difficult to speak for and to all of postsecondary education. We knew that the colleges and universities comprising the vast non-system of higher education in this country vary in every conceivable way. What is taught and how, to which students, by which faculty, according to which institutional cultures and arrangements cannot be captured in any single description.

Our first attempt to deal with this situation was to narrow our field of vision: we would focus on efforts leading to the baccalaureate degree, whether those efforts began in two-year or four-year institutions. We thus succeeded in narrowing our territory to only 3,273 schools!* This meant that we did not study, discuss, or write about proprietary schools and employer-sponsored programs whose numbers appear to be even greater—and growing.

While collectively we were directly acquainted with a wide range of colleges, community colleges, and universities, we were clearly more intimate with the institutions that had employed us. We kept reminding ourselves that only a small percentage of colleges and universities can select their students, and that the majority, in fact, take just about anyone who applies. We knew that the full-time, residential student engaged in post-adolescent exploration in a college is no longer the norm. We recognized that university faculty members who teach two or three courses a term experience their work differently from faculty members in community colleges, state colleges, and some liberal arts colleges, who teach four or five courses each term. We kept in front of us statistics showing that some institutions spend over $20,000 per student annually while others manage with less than $5,000.

Nevertheless, we knew how easy it would be for us to lose our awareness of the diversity of institutional environments and conditions in higher education today. We therefore decided to commission papers from people who would be able to write authoritatively about four major sectors into which higher education is usually divided: community colleges, state colleges, liberal arts colleges, and research universities:

- We asked Arthur M. Cohen, president of the Center for the Study of Community Colleges, to write about community and junior colleges.
- We commissioned Robert Birnbaum, former chancellor of the University of Wisconsin/Oshkosh, to analyze the state colleges.
- We asked Allan O. Pfnister, vice chancellor for academic affairs at the University of Denver, to discuss liberal arts colleges.
- And we requested Roger L. Geiger, research associate at the Yale Institution for Social and Policy Studies, to tell us about research universities.

While the four categories covered in these essays do not account for all of American higher education, they represent the dominant institutional contexts for student learning.

All of the authors received the same basic charge. They were to comment on the contexts for understanding the language, rhetoric, and traditions of the kinds of institutions they were writing about. They were asked to describe the value system which binds members of the type together, such as the beliefs and frames of reference that allow the members to judge which missions are acceptable. They were to synthesize the basic information on fiscal, physical, and human resources, as well as less accessible information on the major forces in the environment that impinge on each type of institution.

The Study Group was deeply concerned about undergraduate baccalaureate education (e.g. in the relationship between transfer and occupational education in community colleges), and the characteristics that might inhibit its effectiveness in each type of institution. The authors were asked to comment on these matters as cogently as possible.

**The number is that of institutions in the United States and outlying territories identified as institutions of higher education in directories of the U.S. Department of Education and the National Center for Education Statistics.*

All four authors point to the diversity that exists even within the institutional types they were assigned; and their distinctions and sub-groups are important clarifications of what are only general categories. Not surprisingly, each author emphasizes different aspects of the charge we gave him, but each does so in ways that faithfully reflect the main preoccupations of the sectors about which he writes.

- For Arthur Cohen, the central issues for community colleges result from their permeability. Responsiveness, Cohen suggests, may bring into question the credibility of their degrees in terms of further study.
- For Robert Birnbaum, identity is the issue for state colleges, as they struggle to balance their role as "agencies of the state" and their commitment to academic values. Birnbaum argues for an approach to quality close to the one adopted by the Study Group, an approach that pays more attention to how smart students *become*, not how smart they are when they begin.
- For Allan Pfnister, the compelling—even wrenching—question for liberal arts colleges is how to interpret their indisputable contribution to the heritage of higher education in this country at a time when they are no longer preeminent.
- Roger Geiger's analysis of research universities, those diverse and compartmentalized city-states, stresses the competition among them for academic prestige. The resource view of excellence holds sway within this world; surround good undergraduates with other good undergraduates, leading scholars, a first-rate library, a rich array of academic and cultural options, and they will receive an excellent education.

In *Involvement in Learning*, we call the resource view of excellence into question, if only because the evidence for the impact of such resources in research universities is not overpowering. But in all four of these essays students are shadowy figures whose preferences somehow shape the fate and curricula of their institutions. How this process occurs—and how much colleges and universities of whatever type *specifically* affect the learning and development of students, in turn, are mysteries. This is why the Study Group speaks so much about assessment in *Involvement in Learning*.

In reading through these papers, and in reflecting on our own experience and research, the Study Group was struck by some of the similarities among the institutional types, especially their responses to certain environmental forces. In their own ways, all of them are trying to cope with declines in resources after a long post-war period of expansion. All are affected by the current pressure from state governments, funding agencies, parents, and students for immediate and practical payoffs. And all must come to terms with the dominance of the research university in the imagery and preparation of their faculty.

In the view of the Study Group, these forces have created institutional cultures and practices that are the very opposite of an effective undergraduate education. More and bigger are *not* better. Too much pressure for immediate practical results undermines true learning. And research on specialized topics in the disciplines should not be the only basis on which faculty are trained and rewarded, let alone the only basis on which they conceptualize what they teach. *Involvement in Learning* offers specific suggestions for creating other institutional cultures and practices that will enhance the learning of students. In the process of that creation, we believe, students will also revitalize our postsecondary institutions.

We are grateful to the National Institute of Education, not only for supporting our work, publishing and distributing *Involvement in Learning*, and sponsoring a series of regional conferences at which the issues we raised could be aired, but also for making it possible for us to share these papers (and other background studies) with a wider audience. That is the intention of these volumes: to share, and by so doing, to extend and sustain the national effort to realize the potential of American higher education.

Zelda F. Gamson
for the Study Group on the Conditions of
Excellence in American Higher Education

About the Authors

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NOTE: The views expressed in the Introduction and in the four essays are those of the authors, and do not represent the opinions or positions of the United States Department of Education.

The Community College in the American Educational System

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Educational theorists as diverse as Ivan Illich and Thomas Green have debated the configurations of the American educational system. Illich (1970) explained how the attainment of each level of schooling creates a demand for the next level and effects a form of regressive taxation, since the system's upper reaches tend to be populated by the higher income groups. He deplored the power of a system that could allocate a person's position in society by determining who was learned and thus capable of obtaining high status employment.

Green (1980) analyzed the system itself, describing it as a set of schools and colleges related by a medium of exchange comprised of the certificates, diplomas, and degrees by which the activities and outcomes of one school can be recognized as being the same as those of other schools. The system is organized in a sequence, with students prepared in one grade to continue to the next in line. It distributes educational benefits and certificates that have market value among employers. The institutions at the system's core are those whose certificates are perceived as having the greatest value, both for students going on to the next grade and among agencies outside the system. In higher education this core includes the traditional liberal arts colleges and the major research universities, along with their associated graduate and professional schools. The proprietary trade schools tend to be at the system's periphery, while corporate and professional association non-graded educational activities are outside it.

Where do American community colleges fit into the educational system? This paper discusses the educational efforts of these schools at the level of grades 13 and 14, their early attempts to gain a place near the system's core and the forces that have moved them toward the margin. And it examines the dilemma faced by community college leaders who want to maintain their institution's place in graded education but also wish to continue providing a variety of educative and quasieducative services to their constituents on an open-access basis.

Background

Community colleges are relatively recent arrivals in the American education system, outgrowths of the junior colleges founded in the early years of the twentieth century when publicly supported higher education was beginning to move toward its current prominent position. Several forces contributed to the rise of higher education and the newly emergent two-year colleges: scientific research, the expansion of professional schools, the demand for paraprofessional and technical aides, and the drive for equality of educational opportunity for all people regardless of gender, ethnicity, or family income. The junior colleges would serve many of these people as convenient, accessible points of entry to higher levels of schooling and to the workplace.

Secondary school growth also fostered junior college development in the early decades. Between 1910 and 1940, for those students who had entered the fifth grade eight years earlier, high school graduation rates increased from 7% to 50%. Since one of the major outcomes of schooling is the demand for more schooling, the rapidly increasing number of high school graduates forced the expansion of higher education. And, since the increased percentage of the age group seeking entry to college also resulted in a demand for non-traditional curricula, collegiate institutions were forced to expand their scope as well as their size. The universities could grow and diversify only up to a point; in most states, a network of junior colleges developed to provide services the universities could not provide. This network soon became a buffer of institutions, preparing young people for university-level studies or diverting them toward other pursuits.

The first publicly supported junior colleges opened in the first decade of the twentieth century and were outnumbered by the private junior colleges until 1950. These colleges offered transferable education, enabling

students to complete the first two years of baccalaureate studies; occupational programs leading to certificates of completion for curricula that might take two years or less to complete; and post-secondary terminal curricula for students who would not go on to a university but who sought an additional year or two of preparation for home and family living or for clerical and other entry level jobs in business.

Following World War II, the trend toward increased years of formal schooling moved great numbers of students into post-secondary institutions. Talk of universal higher education became common when, in 1947, the President's Commission on Higher Education recommended that post-secondary instruction be made available to all individuals who could profit from such exposure. The idea that the ultimate benefit to the state would far exceed the cost led to increased support for post-secondary institutions that would provide occupational preparation, offer instruction in citizenship and basic skills, and allow young people a place to develop during a period of prolonged adolescence. By 1950, 40% of American high school graduates were entering college. And by 1960, 75% of each age group were graduating from high school and 60% were entering college (Table 1). This increase in the rate of matriculation was enhanced by the junior colleges, which by that time were open in nearly every state and were admitting students with little regard for their prior academic preparation.

During the first 20 years after World War II, the junior colleges added functions to their transfer, occupational, and post-high school terminal programs and began calling themselves community colleges. The additional functions included community services, cultural and educational programs that [illegible] did not lead to transfer or specific jobs, and remedial studies. Community services were added deliberately, promoted by leaders who saw a broader role for the junior college as a full-service education agency for people of all ages. Remedial studies, on the other hand, were adopted perforce as a legacy of the post-secondary terminal courses, combined with adult basic education and (starting in the 1960s) the necessity of remedying the defects in the educational experience of recent high school graduates. These additional functions, coupled with the expansion in the population and the growth in college attendance, led to substantial public community college growth. By the 1980s, nearly 1,000 community colleges were enrolling 4.5 million students, or more than one-third of all people engaged in formal post-secondary education.

Community college growth over the past four decades has resulted from a number of forces, some of which affected the growth of institutions at all levels, while others were characteristic of the two-year colleges themselves. The growth in all types of schools is attributable to society's expanding expectations of what the schools can do, the percentage of the age group participating in formal schooling, and student consumerism. Ravitch (1983) enumerates the broadened expectations assigned to the schools: "Preserve democracy, eliminate poverty, lower the crime rate, enrich the common culture, reduce unemployment, ease the assimilation of immigrants to the nation, overcome differences between ethnic groups, advance scientific and technological progress, prevent traffic accidents, raise health standards, refine moral character, and guide young people into useful occupations" (p.xii). Community colleges developed programs in each of these areas.

The community colleges fed on the student consumer movement. The traditional goals of higher education, to transmit knowledge and stimulate intellectual development, took a back seat to the presumed desires of students to find a job, protect their health, get the most for their money, and adjust to their lives. In such a climate all subjects are of equal value, and the consumer is the arbiter of what shall be studied. If most people attending school want to use their education as a tool to help gain employment and social advancement, the curriculum shifts accordingly. Therefore shift it did in the community colleges, because of their administrator-dominated leadership and commitment to serving the public. There were no vociferous alumni who would object to an expanded mission for their *alma mater*, no entrenched faculty sufficiently powerful to deflect the drive for new students and new missions. If their leaders had difficulty in modifying existing programs, they merely added new ones. Growth provides its own dynamic for change.

The colleges had been organized to provide the first two years of the baccalaureate sequence. During the 1920s and 1930s, that continued as their primary function, with the majority of students expecting to transfer to baccalaureate degree institutions. Very early in its existence, the American Association of Community and Junior Colleges adopted the definition of junior college as "an institution offering two years of instruction of strictly collegiate grade." In 1925 the association amended its definition to include the statement, "The junior college may, and is likely to, develop a different type of curriculum suited to the larger and ever-changing civic, social, religious, and vocational needs of the entire community in which the college is located. It is

understood that in this case, also, the work offered shall be on a level appropriate for high-school graduates" (Bogue, 1950. p.xvii). However, the association also reiterated its original declaration that the colleges offer courses usually offered by senior institutions: "these courses must be identical, in scope and thoroughness, with corresp ing courses of the standard four-year college." This early interest in transfer education survived so that by 1980 over half of junior and community college students were enrolled in courses that carried credit transferable to senior institutions.

During the 1930s and 1940s many community college leaders sought to expand occupational training as an addition to the transfer function. Pointing to the educational levels demanded by the nation's employers, they advocated the development of technological training programs. Whereas the secondary schools of the time were teaching crafts and home economics, the community colleges would prepare people to enter the work force in jobs for which craft training would not suffice. The emergent electrical, radio, aeronautical, and health technology fields all found a place in the community colleges of the time, but as late as 1960, only one-fourth of community college students were enrolled in occupational programs. With the passage of the federal Vocational Education acts in the early 1960s, occupational programs increased, so that by 1975, 35% of the students were enrolled in programs designed to lead to immediate employment. The types of degrees awarded by community colleges reflect that expansion. In 1970-71 just over 250,000 degrees were awarded with less than 43% going to occupational program graduates. In 1979-80 slightly more than 400,000 degrees were granted with more than 62% of these given to occupational program graduates (Table 2).

Programs for adult learners also became popular during this period of rapid growth. Community colleges began offering courses designed for adults who may never have attended college, or who had chosen to return for occupational upgrading or for their personal interests. The colleges particularly sought middle-aged students, providing programs specially tailored for them and offered at night and on weekends. They recruited senior citizens; and at least half offered tuition reductions, special classes, or entire programs for persons over age 65. The success of these efforts is reflected in the mean age of the community college student body, which by 1980 was 29.

The enrollment of part-time students also contributed to the growth of community colleges. In 1968 they enrolled 1.9 million degree credit students, 47% of whom were attending part-time. In 1982 enrollment climbed to 4.9 million, with 63% of these students attending part time (Table 3). Those figures do *not* include students who enrolled in non-credit courses such as hobby and recreational activities, high school completion courses, and short term occupational studies. With the exceptions of New York and North Carolina, in the 14 states with community college enrollments greater than 50,000, part-time students outnumbered the full timers. Just as the colleges made a particular effort to recruit older students, they also sought out the part timers by making attendance easy. Classes were offered at off-campus centers and in various workplaces, and students were not required to complete programs within a given span of years.

Students of lower ability swelled community college enrollments. Most American colleges have enforced some type of selectivity in admissions, but the community colleges have tended to reduce requirements. As an example, more than half of community colleges allow students to attend if they are of a minimum age (usually 18) and/or they present a high school diploma. Only one-fourth of them ask the student to present ability test scores, and few, if any, use the student's high school grade point average as a criterion for admission. This has resulted in a high proportion of students with poor prior academic records attending community colleges. Whereas 62% of the full-time students entering all post-secondary institutions in 1983 were from the top 40% of their high school classes, only 47% of that group entered community colleges (Table 4). Further, the scores of matriculants who took the American College Testing Program's battery reflect a steady decline in ability that has persisted for nearly two decades (Table 5).

The community college attracted sizable numbers of ethnic minority students and similarly high proportions of students from low income families. By 1980 nearly 40% of the ethnic minority students involved in American higher education were enrolling in the community colleges. More than half the minority population in college began in a community college. Additionally, while 54% of all first-time, full-time students entering college came from families with annual incomes of less than $35,000, 74% of the community college matriculants fell into that category (Astin, Green, Korn, & Maier, 1983).

Having a college campus within reasonable commuting distance has a marked effect on the percentage of people who attend college. Most community colleges have been built in the cities or the suburbs, locations that encourage college attendance since students may participate even while living at home or continuing full-time employment. This enchanced the attractiveness of college education for low-ability students and for those who are only casually committed to schooling.

Community colleges have also grown by acquiring educational functions previously offered by other agencies. Many of them have taken over law enforcement programs from police academies, firefighter training from fire departments, and health technology and nursing programs from hospitals. In many cities, such colleges have absorbed the adult basic education function, the literacy training that was formerly carried out by the adult division of the elementary or secondary school district. Furthermore, numerous former adult education centers and technical institutes entered the universe of community colleges when they began offering associate degrees. This has happened in several states, including Iowa, Nebraska, Wisconsin, North Carolina, South Carolina, and Georgia. And in Kentucky, Hawaii, Pennsylvania, and other states, the public universities have organized two-year branches which are included in the data on community colleges.

There is one more characteristic of community colleges which should be noted in this catalog of reasons for their growth. Compared with most four-year colleges, community colleges are more economical to operate with more modest facilities, smaller libraries, fewer laboratories, and practically no support for academic research. Data collected by the National Center for Higher Education Management Systems indicate that the public two-year colleges rank last among higher education institutions in all categories of revenue including state and local appropriations per student, tuition revenue, private gifts, and government grants and contracts. Around 70% of their revenue from state and local aid is apportioned on a per-student basis, and around 15% comes from tuition and fees. The percentage of state aid has been rising steadily over the past 40 years, while local support has diminished in commensurate fashion (Table 6). In spite of low income, however, community colleges' faculty salary scales compare favorably with those of general baccalaureate colleges and of colleges specializing in professional training. The reason is that faculty-student ratios are much higher in community colleges, standing at approximately 28 to 1 in the academic transfer courses. However, as in senior institutions, the cost savings that were supposed to accompany the introduction of instructional technology never appeared, and, coincident with the leveling in enrollment and union-negotiated class size limitations, per-student cost of instruction may soon show a rapid increase.

Access and commitment to growth have been the dominant values of community colleges. They have opened their doors to people who could not afford the expense of moving away from home and establishing full-time residence at a senior institution. Community colleges charge lower tuition fees and admit students with little regard for prior academic achievement. They organize programs for everyone, from displaced workers to illiterate adults, and programmatically accommodate people's interest in problems such as aging, substance abuse, and adjustment to divorce. They are truly the people's colleges and access for everyone is their greatest appeal.

Faculty

Studies of community college instructors describe them as a group differing in demographic characteristics, attitudes, and values from their senior institution counterparts, and from the administrators and trustees in their own institutions. The typical community college faculty member teaching transfer credit courses holds a master's degree. This has been true since the earliest years of the community college as an institution: a 1930 study showed 59% of community college instructors with a master's, and 5% with a doctorate; by 1970 74% had master's degrees, and 15% possessed doctorates (Cohen & Brawer, 1982, p.77). Instructors of occupational subjects frequently do not have master's degrees since their certification tends to be based on experience within the trades that they teach. Members of both transfer and occupational faculty groups have relatively high teaching loads. The instructors of transfer courses teach from 13 to 16 hours per week—four or five classes with around 30 students in each. The occupational program faculty often teach longer hours since they are involved in clinics and laboratories.

Community college faculty tend not to be members of academic disciplinary associations. For example, less than 7% of those teaching history belong to the American Historical Association. The figures are similar

for community college faculty membership in the American Philosophical Association, the American Sociological Association, the American Psychological Association, and so on. The reason for this is partly the fault of the associations; for example, prior to 1973 the American Sociological Association required members to have a Ph.D. Furthermore, the publications and conferences sustained by the associations tend to have little to do with the realities of teaching in community colleges. Where associations have been formed with the specific intent of involving community college instructors, their success ratio has been much higher. The Community College Humanities Association is an example. In 1983, 63% of instructors teaching history, foreign languages, political science, and other humanities disciplines claimed association membership, with most of them involved either in the CCHA or in specially designated subgroups of the major foreign language, English, and music educators' associations.

The faculty union movement has made greater inroads in community colleges than in senior institutions; more than one-third of community college instructors are working under contracts negotiated through collective bargaining. Community college faculty organization is at least partially related to a lack of disciplinary affiliation. Faculty allegiance is to local colleagues, not to a national community of scholars. The bargaining units may or may not include the part-time faculty, which is a point of some consequence since in 1980, 56% of community college instructors were part-timers (Table 7).

Are the faculty satisfied with their working conditions? Until the 1960s local secondary schools were the largest single source of community college instructors. For those who moved from a secondary school to a community college, satisfaction was high because their status had been increased and their teaching load reduced. The less satisfied instructors tended to be those hired directly from graduate school (Cohen & Brawer, 1982, p.81). General satisfaction notwithstanding, many instructors grumble about both the abilities of their students and long teaching hours. Faculty continually plead for better qualified students; several surveys of the faculty teaching humanities and the liberal arts conducted by the Center for the Study of Community Colleges have shown that around one-fourth of the faculty want stricter prerequisites for students desiring admittance to their classes. Around the same percentage of the faculty would also prefer smaller classes (Brawer, 1984).

Thus, despite the pronouncements of administrators and institutional association spokespersons who continually refer to the open access, something for everyone characteristic of their institutions, the dominant faculty ethos continues to be that of small classes with well-prepared students in attendance. In one large urban community college district, the faculty bargaining unit recently negotiated a teaching load reduction from 15 to 12 hours per week. In return, they relinquished all sabbatical leaves, instructional development grants, and travel funds. They saw lower teaching loads as more crucial to their professional well-being and satisfaction than the perquisites that faculty historically have considered essential for their professional currency.

This conflict of values, with many administrators and governing board members seeking institutional growth regardless of the characteristics of the students, and faculty desiring smaller classes, better-prepared students, and reduced teaching loads, was sidestepped throughout the period of community college expansion. The growth in occupational studies presented few problems; in most institutions separate instructional divisions were maintained. The occupational programs had their own deans, budget lines, funding sources, credentialing structures for the faculty, sets of admissions standards for the students, program goals, and student follow-up studies. But the difficulty concerning low-ability students has never been resolved. The question of how to make up for years of learning deficiencies could not easily be answered. Even though remedial programs were established, they were usually funded as a part of transfer programs and staffed by faculty with credentials similar to those held by the instructors in the transfer credit courses. Furthermore, the 1960s and 1970s saw a decline in the standards for admission to the transfer credit classes. Varying degrees of success were achieved in some colleges with small groups of functional illiterates; but poorly prepared students remained the most intransigent problem for the faculty and, indeed, the community college as an institution.

Curriculum and Instruction

The transfer curricula in community colleges have always been marked by the types of students attending the classes and the faculty teaching them. In the early years, when most of the faculty were recruited from secondary schools, the liberal arts courses were frequently taught as modified versions of the courses presented

in high schools. Centered on the textbook, there was little indication that students were expected to do independent study. In the middle years, the 1950s and 1960s, the slogan, "Our courses are just like those offered in the universities," was often heard. As more of the faculty entered community colleges directly from university graduate programs, the push to teach college-type courses increased, with new requirements for students to write papers and read beyond the assigned textbooks.

When the full extent of the decline in student abilities was felt in the community college of the 1970s, expectations in the transfer courses, and student behavior, changed notably. These modifications were traced by Richardson and others (1983) who showed how requirements for reading and writing in all courses, including general education and the liberal arts, had been reduced in one representative community college. Students were expected to read little but a textbook, and even then they were reading not for content or ideas but for the minimal amount of information needed to pass quick-score examinations. Expectations for student writing had dropped as well, so that students wrote, at most, a few pages in any course. These findings were corroborated in several studies conducted by the Center for the Study of Community Colleges which showed that nationwide, students were required to write papers in one in four humanities classes and in one out of ten science classes. Less than half the instructors in all of the liberal arts areas gave essay examinations (Cohen & Brawer, 1982, p.156). It is important to note here that this phenomenon of attenuated course requirements was not restricted to community colleges; it afflicted all of higher education. However, it was accentuated in community colleges, which have always drawn their students from among the less well-prepared. The declining abilities of high school graduates in the 1970s merely made the difficulties more pronounced.

Faculty members in most community colleges tried a variety of instructional innovations to increase the value of their courses. Audio-tutorial instruction in biology, video-taped presentations in the social sciences, computer-assisted language instruction, nd taped and filmed sequences in the humanities and fine arts were all developed and used by the instructors. However, the efforts to teach the poorly prepared students, most of whom were attending part time, took its toll not only on the faculty but also on the curriculum. By 1980, 90% of the enrollment in community college liberal arts classes was in courses for which there was no prerequisite; one-third of the enrollment in mathematics classes was in courses at a lower level than algebra; and, three out of eight students taking English classes were in remedial sections.

Policies of funding and course articulation affect transfer studies in the community colleges as much as do the types of students who attend. In most states the liberal arts and occupational courses are funded on different schedules, with occupational courses receiving higher per capita reimbursements. Accreditation standards reinforce this differential funding, which affects faculty-student ratios and the equipment and assistance available to instructors in the occupational programs. State coordinating boards may also direct the community colleges to eliminate those transfer courses that are offered as junior-level options in the senior institutions. Internally, the minuscule proportion of students who complete two years at the community colleges make it difficult to maintain a full complement of specialized sophomore level courses. This has a spiraling effect: the fewer specialized courses, the fewer students stay at the colleges for their second year.

Around 50% of the community college effort is devoted to courses in the humanities, science, social science, mathematics, and fine arts. This curriculum is based on an amalgamation of the general education innovations brought into the community colleges during the 1940s and 1950s together with the liberal arts as specified in university freshman and sophomore studies. The general education/liberal arts curriculum is maintained in community colleges because it forms the core of transfer studies, hence, it is the basis of preparation for those students who wish to go on to the baccalaureate. This curriculum is also required for graduation with the associate in arts or associate in science degree; most institutions, either by state regulation or by their own internal rules, require between 18 and 30 units in general education/liberal arts. This area of the curriculum also draws some students from among those attending community colleges for their own personal interest, with up to 20% of the enrollment in those courses drawn from that group.

Liberal arts courses are influenced by the universities through formal articulation agreements and by informal arrangements between individual instructors and academic departments. Articulation agreements may be rigorous, requiring common course numbering within a state system of universities and community colleges, and senior faculty approval of syllabi and course content for those courses that carry transfer credit. On the other hand, the community colleges may be given such latitude in the construction of the transfer courses that the resemblance between a community college course and a university freshman course may stop with the

course number and title. University influence is also exerted through informal associations and professional meetings where faculty from both institutions discuss textual requirements, content, ideas, and syllabi.

The academic transfer function focuses on the liberal arts because of tradition and the need to articulate those courses for the benefit of students who transfer to universities. But transfer education in community colleges has been modified through the implementation of interdisciplinary courses in the sciences, social sciences, and humanities. Instead of offering students a choice of fulfilling transfer requirements through specialized courses in history, art, music, or philosophy, those disciplines are combined into single courses with such titles as "Mirrors of the Mind" or "The Art of Being Human." And, in some community colleges, students' desire for transfer studies is being combined with their need to work through cooperative work experience-based liberal arts programs.

The community college transfer curriculum has a flat profile with a liberal arts bias. Most students enrolled in it are in introductory courses and/or courses that have no prerequisites. Add to these the remedial courses that are supposed to prepare students for the transfer credit courses, and a curriculum that is grade 13 plus remedial appears. This has opened a gap at grade 14 that makes it difficult for a student to complete two years and then transfer.

Transfer

How many students actually transfer? The data are unreliable. In the beginning, the proportion of students completing two years at community colleges and transferring to universities probably averaged around 25%. More recently, the number of students completing two years and then transferring has remained constant, but the percentage has declined to around 5% of total enrollment. The patterns of college attendance have changed, with greater percentages of students attending part time, dropping in and out, taking courses concurrently at community colleges and universities, transferring from community colleges and back again, and transferring before obtaining 60 units or the requirements for an associate degree at the community college. Approximately one-half the students in the academic classes say that transfer is their primary goal (Center for the Study of Community Colleges, 1984), but most of the other half also take transfer credit courses to fulfill occupational program graduation requirements or for personal interest. The question becomes: who is a transfer student if nearly half the people taking courses for transfer credit are not interested in transfer?

The data on transfer students also suffer because of confounding with occupational education. A 1978 California longitudinal study showed that more than one-fourth of the students enrolled in occupational programs indicated they intended to transfer, and more than one-fourth of the students enrolled in transfer credit courses indicated they were attending college to gain job-related skills (Hunter & Sheldon, 1980). In a 1983 Los Angeles district study, 35% of the students were in the latter group (Center for the Study of Community Colleges, 1984).

Nor is the question of the number of students transferring made easier to answer when the only people counted are those who actually matriculate at senior institutions. In some states students are counted as transfers if their college of last attendance was a community college; in others they must have acquired 30 units or more at a community college before they are so counted. Few states bother to collect data on the number of their students who transfer from community colleges to senior institutions in other states. Reverse transfers—those students who leave the university, matriculate in a community college for one or two semesters, then return to university—are counted in some states and not in others (Cohen, 1979). Probably the only accurate way of determining the community colleges' contribution to baccalaureate education would be to examine the transcripts of baccalaureate-degree recipients and determine how many of their bachelors degree course requirements were acquired in community colleges. Such studies have been done in single institutions (cf. Menke, 1980) but no such data are collected systematically.

There is a paradox in the community colleges' approach to transfer studies. Most community college leaders understand the desirability of transfer education. It maintains the link with higher education that they worked to develop and fits the expectations of many of their constituents who still look to the community college as a low cost, ready-access point of entry to post-secondary study that leads to better social and career positions. On the other hand, occupational education is presumed to ameliorate social problems by providing a trained work force that will enhance the nation's economy and assist individuals by preparing them for employment

at higher salaries than they could receive without specialized training. In consequence, especially since the passage of the Vocational Education acts, community college leaders have seized upon the idea of career education and upon the funds made available for it, and many of their constituents also consider career education as an equally valid function for the institution.

The paradox appears when the transfer and occupational programs are compared. Typically, students enrolled in programs leading to associate in arts degrees and/or transfer with a major in a traditional academic subject receive less guidance and are faced with fewer specific requirements. In many instances they may choose any humanities, science, or social science course from a list of options in order to fulfill a one-course or two-course graduation requirement in each of those areas. The transfer program typically has open entry; students may matriculate even when their goals are undefined. In class, they face minimal demands for reading and writing. Class size in the humanities and social sciences tends to be limited only by the size of the room or by negotiated contracts that specify maximum class size. Institutional support for the faculty in the transfer or liberal arts area may include media preparation facilities, but few faculty have access to paraprofessional assistants or readers.

In contrast, the occupational programs are much more structured. Their facilities include laboratories and workshops along with equipment and tools. Their curriculum is restrictive, with required courses to be taken in sequence. Admission to programs is selective; students may often be required to take a year or two of college-level courses before being admitted to the allied health or high technology programs. Each program typically has a lead faculty member and instructors who work together as a group.

Granted that occupational programs operate with different sets of accreditation guidelines and that state and federal money is often earmarked for them, but if they and the transfer programs were considered of equal utility the two would not be organized as differently as they are. Before the 1960s, transfer education was the more highly regarded. Facilities for occupational education were poor and the faculty in those programs were in some cases prohibited from participating in academic governance activities. More recently, career education has been on the ascent, while a concomitant reduction in the status of the traditional freshman and sophomore courses has been occurring. If both curricula were equally valued, they would be more similar in terms of teaching load, requirements for student entry, enforcement of prerequisites in curriculum, and academic support services.

Still, occupational studies are not antagonistic to transfer education. Sizeable numbers of students who complete community college programs in nursing, allied health, engineering, data processing, agriculture, forestry, and many other advanced technologies eventually transfer and complete baccalaureate studies; it may well be that more students transfer from occupational programs than from the liberal arts curricula. The genuine enemies of the transfer function are the non-sequential activities that fall within the definition of community education.

Community education is that portion of community college service that falls outside the traditional graded curriculum. It includes activities as diverse as non-credit courses in the arts and sciences, remedial and high school makeup programs in adult basic education, open forums on contemporary public issues, recreational activities, short courses in specialized occupational skills, and contract programs organized for particular industries. Figures on this area are not reliable, but the 1983 *Community, Junior, and Technical College Directory* shows 4.3 million people enrolled in community education. College leaders justify this effort with the rationale that a true community college must offer more than a graded program.

The problem with community education is that it confounds access with education, and leads to a blurring of the community college's image and function. Increasingly the college is viewed by its constituents as a place where various meritorious activities are undertaken, rather than as a place for a serious student intent on obtaining a baccalaureate degree. The problem is compounded by the varied patterns for the funding of community education, much of which is self-supporting (through fees paid by participants) but some of which is supported by funds earmarked for the graded curriculum. The latter effect is realized when the cost of the remedial courses and of the sizeable proportion of students in transfer credit courses who have no intention of transferring are recognized as costs of community education. It is undoubtedly important to offer courses in the use of office equipment to people wishing to upgrade themselves within their occupations, and to offer courses in painting or piano playing to people who already have college degrees, but these functions are detrimental to the perception of the college as a provider of grades 13 and 14.

The people served through community education efforts do not fit typical student categories. They do not enroll in programs leading to degrees; they may not even be enrolled in formally structured courses, but may be participating in events especially tailored to their interests. Therefore, any attempt to fund community education on the basis of average daily attendance, full-time equivalence, or any other category suggesting student course attendance leading to degrees or certificates is at variance with the intent of the program and the pattern of student participation.

Ideally, community education should be funded programmatically; that is, a college would be awarded a fixed sum each year to provide cultural, occupational upgrade, recreation, personal interest, community health, and semi-professional retraining programs to the people of its districts. Or, the colleges could maintain their open access policies with students taking courses that may or may not lead to degrees, and build a transfer or honors college within such a structure. Major funding would be for individuals participating in courses with reimbursement on an attendance basis, but the transfer or honors college would be operated separately with a variety of specially funded enrichment opportunities and work assistance/scholarship funds available. Another way of separating community education efforts might be to maintain transfer and occupational functions but to turn community service into an extension division, as many universities have done. This would put all community education on a self-sustaining basis (the elimination of the local tax funding of California community colleges effected in 1978 is forcing such reorganization in that state). Still another way of maintaining the traditional college with a community education component would be to place community service, remedial, and adult basic education in a separate center, with staff who might or might not have standard teaching credentials, who are teaching students 40 hours per week. Such centers have been organized under the aegis of community colleges in Chicago, Phoenix, and San Francisco.

To the extent that community education activities are merged with transfer and occupational education functions, all are weakened. Community service activities cannot flourish when they are presented by people with traditional views of instruction and when they are funded ad hoc. The transfer function is weakened when it coexists with community service activities in which people receive college transfer credit for participating in courses and events even when not working toward degrees. Those enrolled in courses that carry transfer credit who either already have associates, bachelors, or graduate degrees, or have no intention of taking courses in a sequence that leads to a degree are truly community education students. However, since they are mingled with students intending to transfer, the transfer function is diffused. Additionally, occupational programs suffer when the figures on the number of students gaining employment in the areas for which they were trained are reduced by the number of students transferring to senior institutions instead of going to work.

The Future of Transfer Education

The prognosis for the transfer function depends in some measure on developments external to community colleges. If universities develop occupational programs better articulated with those in the community colleges, the transfer function may center on preparing students to enter junior level programs leading to bachelor's degrees in health fields, technologies, and the professions. And, if entrance to those programs continues to depend on the completion of courses in the humanities, sciences, social sciences, mathematics, and English, those areas will continue to thrive in the community colleges. Still an open question, however, is the extent to which community colleges can succeed in preparing students who lack the basic skills of reading, writing, and computation. They may be bolstered in their efforts if secondary schools tighten graduation requirements and reduce the number of functional illiterates they pass along to post-secondary education.

The transfer function will also be affected by the extent to which community college leaders seek to maintain their institutions' place in the formal education system. Many community colleges have stretched the bounds of their legitimacy within the system by community education efforts and by offering certificates that do not qualify recipients for entrance to the next level within the structure. However, a reversal of that tendency seems to be occurring, as demands for sophomore screening tests restricting entry to university upper divisions are expanding. Florida, for example, has recently instituted such a test on a state-wide basis.

The coming years will see a struggle between those who would keep the community colleges within the educational system and those who would move them closer to the system's periphery. The colleges will weaken their position whether they pass nearly all students through or pass nearly none. In the first case they

will act merely as custodial institutions rewarding students with course credits that have little negotiability. Since higher education historically has been selective, the colleges that award transfer credit to students who have completed remedial or otherwise low-level courses merely jeopardize those students' chance for matriculation at the junior level. But the community college that passes very few through its transfer program similarly moves toward the periphery of the system because its educational offerings are too much at variance with those provided by the institutions at the core. Accordingly, it does a disservice to the groups it purports to serve because they are not being provided with the most important benefit of another year of schooling: a ticket allowing advancement to the next level.

The tug of war will undoubtedly continue. Community colleges are still looked upon by many as the point of entry to higher education. Although efforts to attract adults have had the effect of increasing the mean age of the student body to 29 years, the median age is 22, and modal age is 19. Most of the students entering the institutions just out of high school still expect to transfer and obtain higher degrees.

How can transfer education be strengthened? That question is being asked by many educators and agency officials. Several projects to help maintain the transfer function and traditional academic courses in community colleges have been funded by the National Endowment for the Humanities, the Ford Foundation, the Andrew W. Mellon Foundation, and other organizations and agencies whose directors realize that the community college is an important element in the nation's post-secondary education effort and that the liberal arts and transfer education are essential components of those studies.

Community colleges might enhance transfer studies by negotiating stronger articulation agreements with both receiving senior institutions and the secondary schools. Counseling can be strengthened with the addition of computerized academic and graduation information systems that keep the students apprised of their progress toward associate degrees and/or toward readying themselves for transfer to junior-level programs. Entry-level testing can be introduced as a way of directing students toward remedial or compensatory education courses within the colleges. (Prior to the 1960s most colleges had such programs, but they were allowed to lapse when testing fell into disrepute in the late 1960s and 1970s.) Liberal arts courses can be arranged in sequence and prerequisites enforced so that students in the transfer programs have some semblance of common experience. Interdisciplinary courses in the liberal arts can be required for all matriculants regardless of the degree, transfer institution, or career that they are contemplating. Academic support services, including tutorials, can be mandated so that poorly prepared students who enter transfer classes would be required to spend time in a learning laboratory working on course-related materials. Citizen advisory committees can be formed as a way of gaining lay support for the transfer program. All these efforts have been made and recent events suggest they will accelerate. The challenge lies in strengthening transfer education while maintaining access for all and continuing the broader educational efforts that have marked the community colleges in the second half of the century.

The community colleges found a niche in the educational system by offering low-cost, degree-credit, and non-credit programs in hometown settings for low-ability, part-time, minority-group, and low-income students who probably would not have otherwise participated in higher education. In so doing, they helped expand the system's boundaries by putting pressure on traditional colleges to modify their programs in order to accommodate the greater numbers of students who sought higher levels of schooling. But at what cost were these achievements accomplished? In their early years, the junior colleges were easily accessible points of entry to higher education. Their grades 13 and 14 were the culmination of high school for some students, the beginning of college for others. Now, the low percentage of students in sophomore-level courses and of students transferring (both less than 10%), coupled with the sophomore-level tests administered to students intending to transfer to the junior year in some state universities, suggest they are operating near the system's periphery. The recent calls for a renewed emphasis on excellence and quality in their programs reveal community college leaders' concern that their degrees and certificates not lose their credibility (McCabe, 1981).

The problem for community colleges now is to combine diverse educational opportunities offered for a broad clientele with a need to stay within the graded system by maintaining the value of their diplomas. In order to continue serving high-risk students, they cannot afford to exercise excessive selectivity in their graded programs. And, in order to continue offering short courses for the public through their community education activities (whether or not so designated), they cannot return to the junior college mode of grades 13 and 14 plus sequenced occupational programs.

Community colleges grew by providing access to the previously disenfranchised. Must an institution committed to access necessarily move toward the educational system's periphery? If so, the core will always be reserved for an elite group of students and schools. The efforts being made in community colleges toward tightening requirements for sequence, enforcing course prerequisites, and providing various forms of assistance for students intending to transfer, suggest that at least some college leaders recognize the need for a strong educational program within an open-access institution.

TABLE 1

ESTIMATED RETENTION RATES, FIFTH GRADE THROUGH COLLEGE ENTRANCE, IN PUBLIC AND NONPUBLIC SCHOOLS

United States, 1924-32 to 1973-81

School years pupils entered 5th grade	Retention per 1,000 pupils who entered 5th grade			
	9th grade	High school graduation		1st-time college students
		No.	Year	
1924-25	612	302	1932	118
1934-35	803	467	1942	129
1944-45	872	553	1952	234
1954-55	915	642	1962	343
1956-57	930	676	1964	362
Fall 1958	946	732	1966	364
Fall 1960	952	749	1968	452
Fall 1962	959	750	1970	461
Fall 1964	975	748	1972	433
Fall 1966	985	744	1974	448
Fall 1968	983	749	1976	435
Fall 1970	982	744	1978	440
Fall 1971	985	743	1979	451
Fall 1973	994	745	1981	469

Rates for 5th grade through high school graduation are based on enrollments in successive grades in successive years in public elementary and secondary schools. Rates for first-time college enrollment include full-time and part-time students enrolled in programs creditable toward a bachelor's degree.

Beginning with the class in the 5th grade in 1958, dates are based on fall enrollment and exclude upgraded pupils.

Source: U.S. Department of Education, *The Condition of Education*, 1981, and unpublished data from the National Center for Education Statistics.

TABLE 2

ASSOCIATE DEGREES CONFERRED BY INSTITUTIONS OF HIGHER EDUCATION BY TYPE OF CURRICULUM

1970-71 to 1980-81

Year	All Curricula	Arts and Sciences or General Programs		Occupational Programs	
		Number	Percentage of Total	Number	Percentage of Total
1970-71	252,610	144,883	57.4	107,727	42.6
1971-72	292,119	158,283	54.2	133,836	45.8
1972-73	317,008	161,051	50.8	155,957	49.2
1973-74	343,924	164,659	47.9	179,265	52.1
1974-75	360,171	166,567	46.2	193,604	53.8
1975-76	391,454	175,185	44.8	216,269	55.2
1976-77	406,377	171,631	42.2	234,746	57.8
1977-78	412,246	167,036	40.5	245,210	59.5
1978-79	402,702	157,572	39.1	245,130	60.9
1979-80	400,910	154,282	38.5	246,626	61.5
1980-81	416,377	155,731	37.4	260,646	62.6

Sources: U.S. Department of Health, Education and Welfare, 1978, and U.S. Department of Education, *Digest of Education Statistics*, 1983-84, p. 137.

TABLE 3

PART-TIME ENROLLMENT AS A PERCENTAGE OF TOTAL ENROLLMENTS

1963-1984

Year	Opening Fall Enrollment	Part-Time Enrollment	Percentage
1963	914,494	488,976	53
1968	1,909,118	888,458	47
1969	2,234,669	1,064,187	48
1970	2,447,401	1,164,797	48
1971	2,678,171	1,290,964	48
1972	2,863,780	1,473,947	51
1973	3,100,951	1,702,886	55
1974	3,528,727	1,974,534	56
1975	4,069,279	2,222,269	55
1976	4,084,976	2,219,605	54
1977	4,309,984	2,501,789	58
1978	4,304,058	2,606,804	61
1979	4,487,872	2,788,880	62
1980	4,825,931	2,996,264	62
1981	4,887,675	3,070,087	63
1982	4,964,379	3,115,055	63
1983	4,947,975	3,113,981	63
1984	4,836,379	3,142,698	65

Source: American Association of Community and Junior Colleges, 1965-1984.

TABLE 4

HIGH SCHOOL ACADEMIC PERFORMANCE OF COLLEGE FRESHMEN

1984

Measure of Academic Performance	Percentage of Enrollment	
	All Institutions	All 2-Year Colleges
Rank in high school		
top 20%	39.7	24.5
second 20%	22.4	21.3
middle 20%	30.1	41.5
fourth 20%	6.7	11.0
lowest 20%	1.1	1.8
Average grade in high school		
A or A+	9.3	3.8
A−	10.7	6.0
B+	18.6	15.4
B	25.2	26.4
B−	14.4	17.3
C+	13.0	17.9
C	8.3	12.6
D	0.5	0.8

Source: A.W. Astin and others, *The American Freshman: National Norms for Fall 1984.*

TABLE 5

MEAN ACT SCORES FOR TWO-YEAR COLLEGE FRESHMEN

1964-1979, 1982

Year	English	Math	Social Science	Natural Science	Composite
1964	17.6	17.4	18.2	18.5	18.0
1965	16.9	17.6	18.8	18.9	18.2
1970	17.2	17.7	18.0	19.0	18.1
1975	15.8	14.9	15.2	18.9	16.3
1977	15.7	14.2	14.7	18.5	15.9
1979	15.8	13.9	14.4	18.4	15.8
1982	15.7	13.3	14.5	18.4	15.6

Source: American College Testing Program, (1966, 1972-77, 1978-79, 1980-81, 1982-83).

TABLE 6

PERCENTAGES OF INCOME FROM VARIOUS SOURCES FOR PUBLIC TWO-YEAR COLLEGES
1918-1981

Source	1918*	1930*	1942*	1950*	1959	1965	1975	1977	1980	1981
Tuition and fees	6	14	11	9	11	13	15	18	15	16
Federal aid	0	0	2	1	1	4	8	5	5	.9
State aid	0	0	28	26	29	34	45	59	60	48
Local aid	94	85	57	49	44	33	24	15	11	17
Private gifts and grants	0	0	0	0	0	3	1	0	1	.5

*Includes local junior colleges only.

Sources: Starrak and Hughes (1954); Medsker and Tillery (1971); Olivas (1979); Richardson and Leslie (1980); *Chronicle of Higher Education* (June 8, 1982).

TABLE 7

NUMBERS OF FULL-TIME AND PART-TIME TWO-YEAR COLLEGE INSTRUCTORS
1953-1984

Year	Total Instructors	Full-Time		Part-Time	
		Number	Percentage	Number	Percentage
1953	23,762	12,473	52	11,289	48
1958	33,396	20,003	60	13,393	40
1963	44,405	25,438	57	18,967	43
1968	97,443	63,864	66	33,579	34
1973	151,947	89,958	59	61,989	41
1974	162,530	81,658	50	80,872	50
1975	181,549	84,851	47	96,698	53
1976	199,655	88,277	44	111,378	56
1977	205,528	89,089	43	116,439	57
1978	213,712	95,461	45	118,251	55
1979	212,874	92,881	44	119,993	56
1980	238,841	104,777	44	134,064	56
1981	244,228	104,558	43	139,670	57
1982	236,761	99,701	42	137,060	58
1983	251,606	109,436	43	142,170	57
1984	252,269	109,064	43	143,205	57

Source: American Association of Community and Junior Colleges, 1955-1982

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State Colleges: An Unsettled Quality

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The state colleges and regional universities are America's most restless institutions of higher learning. Their history spans less than 150 years, but during that time they have, typically, played four changing roles: as post-high school academies, as normal schools devoted solely to the education of teachers, as four-year liberal arts colleges with strong technical emphasis in teacher education, industrial arts, and home economics, and as comprehensive colleges giving also professional education in engineering and business administration and graduate work at the M.A. level. Some have become regional universities with research programs and Ph.D. degrees. And there still remains an unsettled quality about their functions, standards, offerings, faculties and clientele. They continue to seek a brighter place in the academic sun. (Kerr, 1969, p.vii)

Clark Kerr's foreword to E. Alden Dunham's *Colleges of the Forgotten Americans* (1969) is as relevant today as it was fifteen years ago. Having largely completed the transformations in mission, program, enrollment, and governance foreseen by Dunham, the state colleges are still relatively invisible, understudied, and not always fully understood or appreciated by legislatures, potential students, and other internal and external constituencies. State colleges have just completed a turbulent era characterized by rapid growth, social and political unrest, significant alterations in program and structure, and insecure funding, and are now entering a period in which a demographically induced enrollment decline promises continued disruption and discontinuity. It can be expected that their "unsettled quality" will continue into the foreseeable future; in fact it may be an irresolvable consequence of the niche they occupy in the higher education system.

For the purposes of this study, the population of "state colleges" includes publicly controlled, four-year institutions other than those engaging in significant doctoral-level education, or those granting a majority of their degrees in a single program area. In 1982-1983, there were 377 state colleges representing 12% of this country's approximately 3,200 institutions of higher education. Their undergraduate enrollments in 1980-81 exceeded 2.04 million, equivalent to 22.4% of all undergraduate enrollments, and 36.6% of undergraduate enrollments in all four-year colleges. They award approximately 30% of all baccalaureate degrees. Enrollments average 2,400 in institutions offering only undergraduate degrees, and 6,700 in state colleges offering diverse masters degrees as well, making them about twice as large as comparable independent institutions in these two categories.

The state colleges are primarily comprehensive institutions placing major emphasis upon professional, rather than liberal arts, programs. In 1980-81, 69% of their degrees were awarded in professional areas such as education, business, health professions, computer science, and public affairs, with 31% given in the liberal arts. Only 36 state colleges (10%) awarded more than half of their baccalaureate degrees in non-professional subjects, while 134 (36%) gave professional degrees to at least three-quarters of their graduates.

Fifteen years ago, one out of every three degrees awarded by state colleges was in the field of education (Harcleroad, 1983); an additional but unknown number of students were also preparing for teacher certification, but received their degrees in the disciplines in which they were to teach. Although they still prepare 40% of the nation's teachers, in 1980-81 these colleges awarded more degrees in business (22.8%) than in any other field, and education degrees declined both in absolute number and as a proportion of all degrees awarded (17.2%).

While still predominantly undergraduate institutions, the state colleges are increasingly involved in graduate work at the M.A. level, and several institutions award a small number of doctoral degrees as well. Most of these graduate degrees are in the field of education, but other professional areas such as business and nursing, as well as a sprinkling of arts and science areas, are also represented. The colleges on average awarded 21% of their 1980-81 degrees at the graduate level, with 69 offering no graduate work and 47 having graduate degrees comprising one-third or more of their total degrees granted. Although 58 of the state colleges awarded doctoral degrees in 1981-82, their proportions were in almost all cases less than 1% of degrees awarded, and in no case higher than 2.8%.

History

Identifying any large group of institutions by a single label may tend to focus attention upon their very real (but often superficial) similarities, while glossing over differences that may be less evident but more important. Reification of "state colleges" as a type can therefore lead to assuming a homogeneity among individual institutions that, in many cases, are quite dissimilar. Merely comparing the history, traditions, programs, student body, and political environment of the oldest institution now considered a state college (The College of William and Mary, founded in Virginia in 1693), with the youngest (the University of the District of Columbia, founded in 1975), lends some perspective to the wide range of characteristics of state colleges.

To underscore the diversity of state colleges, the group will be here divided into four subgroups; older colleges, multi-colleges, historically black colleges, and new colleges. These divisions are somewhat arbitrary and many state colleges could be placed into more than one of them. In briefly discussing each group, the same caveats concerning the applicability of generalizations to individual institutions should be kept in mind.

Older Colleges

These are institutions founded prior to 1950 (about half of them before 1910) that maintain a unitary collegiate structure, restrict themselves to undergraduate programs, and focus attention upon career and professional preparation. For most, the initial purpose was the training of teachers, and they typically have moved through developmental stages as normal schools, teachers colleges with degree-granting authority in various fields of education, and more recently as state colleges with significant commitments to education but that also offer degrees in other professional areas as well as the liberal arts.

Their educational tradition and linkage to the school systems from which many drew their faculties often led to the development of college governance structures characterized by centralization, administrative dominance, and lack of faculty participation in decision making. Even though enrollment in education programs may have declined, many colleges still maintain large numbers of education faculty, often with senior rank.

These institutions tend to attract a local student body with intellectual interests and abilities reflecting a cross-section of the top two-thirds of the high school graduates in their feeder area, for whom low cost and propinquity probably prove decisive in the application process. Their parents are likely to view the institution as a safe haven preparing students for the world of work while providing an environment conducive to success and relatively free from the excesses of more cosmopolitan settings. Faculty are likely to be "locals," with strong institutional commitments and ties to the community. Of the traditional trinity of institutional purposes, the primacy of teaching is unquestioned, with service usually limited to activities in nearby communities and research eschewed almost entirely. The names of these older colleges are for the most part unfamiliar to persons outside their home state.

Multi-Colleges

These institutions share the same historical precedents as the older colleges, but between 1955 and 1975 underwent a transformation of mission, complexity, and structure. Driven by significant enrollment increases, graduate study, liberal arts departments, and other professional schools were grafted onto an existing teacher-education base. University aspirations were developed both by state planners who encouraged them and by the well-trained new faculty who were recruited to serve in them. However, despite the common change of name from "college" to "university," authority to award the doctorate never materialized. The term "regional university" is often used to denote such institutions, although this term also can be used to refer to some non-public colleges as well.

Vestiges of their teacher-training history remain, but education programs at many of these institutions no longer play a dominant role. The rapid growth in the 1960s of arts and sciences, business, engineering, nursing, and other professional areas overwhelmed the older faculty still in place. The newer faculty brought with them fresh values born of the academic revolution, commitments to their discipline rather than to the institution, and a sense of their proper role in governance that were quite incompatible with the previous order. On some campuses, each September may have seen the faculty grow by one-third or more. Opportunities to socialize faculty into the old traditions, to develop consensus over institutional purposes and to weed out the incompetent were lost, and to a great extent the continuing unsettled quality of these institutions may be related to the consequences of this growth, as well as to the responses to external control to which the growth commonly appeared to lead.

The relatively non-selective admissions policy of most multi-colleges results in a student body of modest academic accomplishment, but the size of the institution and its more specialized offerings permit the development of islands of intellectual ferment. Low cost, convenience, and occasionally the availability of a program not available elsewhere may remain the principal reasons for attendance, but some programs may also develop a regional reputation for quality that attracts the more able, and there is often a core of faculty anxious to encourage intellectual inquiry and a group of students eager to participate. In general, however, the climate of the campus is likely to reflect a collegiate culture, and to be predominantly concerned with career preparation and with extracurricular activities.

Although teaching remains the major mission of these institutions, the expertise of a well-trained faculty and the expectations of local communities often combine to move multi-colleges towards significant programs of service, which can take such forms as collecting and analyzing regional economic data, consulting on the development of new social programs, or technically evaluating local environmental policies. Some scholarly work is done, but on many campuses the role of research remains problematic. In some cases, state-wide master plans or governing board directives specifically restrict the involvement of the state college in research, and assign that responsibility to the state university. The ambiguity created by the presence on campus of faculty who may in fact have been recruited because of their research interests, and then placed in an environment lacking institutional research support, leads to tensions which become overt when debating mission statements, promotions and tenure policy, and similar matters.

Historically Black Colleges

Although often sharing a teacher-training background, these institutions have a different tradition and ethos justifying their identification as a unique state college sub-group. Of the 34 historically black, public, four-year institutions located in 18 states, all but one are state colleges. Almost all of them were founded in Southern and border states after the Civil War in response to the need for literacy and vocational training for black people who were denied access to existing colleges. Until the last quarter century, these institutions were the main sources of black students earning baccalaureates. Even though a majority of black students now attend predominantly white institutions, the historically black colleges still produce 30% of the degrees earned by black students in America.

Twenty-five years ago, the historically black state colleges were characterized (McGrath, 1961) as small institutions with underprepared student bodies and extensive remedial programs, emphasizing professional education in general and teacher education in particular (the only white collar positions generally available at that time to black Americans). The faculty were without terminal degrees, administration was centralized and patriarchal, and facilities were inadequate. Emphasis was placed upon teaching and service to the black community, particularly in the field of education, was considered an important part of institutional mission. Research was virtually unknown. Some dimensions of these institutions were similar to those of the older colleges, but they differed significantly, both in their lower levels of financial support and in the extent to which they existed in an often hostile political and social environment that militated against change or conspicuous self-improvement.

Since that time, the historically black institutions have developed along the same lines as other state colleges, becoming larger and more complex. Support has improved, but not to the level of comparable state institutions that have a predominantly white enrollment. The most serious problems of the historically black colleges, however, may be political rather than fiscal. Established as parallel institutions to offer "separate but equal" education in states unwilling to integrate their higher education systems, they now find their very existence threatened in 17 states by court-mandated orders to integrate the dual higher education systems that have in fact developed. The role of the federal government in this situation is unclear, with presidents of both parties pledging to preserve and support black colleges on the one hand, and the Justice Department bringing suit to integrate black and white state college systems on the other. Clearly, the integration of the systems would mean an end to the distinctive climate and opportunities offered by these institutions, and would seriously diminish the richness and diversity of the higher education system.

New Colleges

This category includes 88 institutions founded after 1950. Although some were developed as general-purpose institutions to meet increased enrollment demands, others were founded for three different articulated purposes.

A number of new state colleges were developed with the expressed intent of responding to the "urban crisis." In some cases this referred to explicitly professional colleges specializing in curriculum areas preparing graduates for occupations presumably in short supply in the cities. In others, it meant institutions that would serve inner-city youth, thus creating a new kind of institution—the "predominantly minority" (but not historically black) college.

A second distinctive category of new state colleges includes those developed with a special mission, in areas such as the arts, technology, or the environment. The third category includes those institutions founded to experiment with new delivery systems, and/or the provision of services to constituencies referred to as the "new learners." In some cases, these institutions may offer no instruction, but rather serve to test and certify student knowledge obtained in other settings.

While these new colleges differ significantly as individual institutions, they all share one critical, common characteristic; although they might choose to include teacher education in their curricula, they are unrestrained by the teacher education programs and traditions that so greatly influenced the development of other state colleges. Some still retain their original innovative characteristics. For most, however, the value of starting with a clean slate has been significantly eroded, if not almost completed vitiated, by internal strife, state and constituency pressures to conform to standard procedures or programs, and the difficulty of sustaining innovation with minimal resources.

Values

The rapid enrollment growth of many of the state colleges, their evolution from a single unifying purpose to multiple and often incompatible purposes, and the increased societal expectations for higher education, have all acted to create a significant identity crisis for these institutions. As Weathersby (1983) points out, they are often easier to define by what they are not (not research institutions, not liberal arts colleges, not community colleges) than by what they are, because whatever distinctiveness they once possessed has been lost. "Such vagueness of purpose and mission has in turn led to confusion in the minds of students, employers, potential donors, and legislators about the identity, purpose, and priorities of these institutions" (p.26).

Given this problem of identity, as well as the differences in the various institutions which make up the sector, it is difficult to specify values that can be said to apply uniformly to all state colleges. There are, however, general similarities in outlook probably shared by a majority of the institutions in the sector.

First, all members of the sector are under public control, and thus are subject to a public bureaucracy that controls many administrative processes, are constantly under public scrutiny and often must discuss sensitive matters under state "sunshine" laws, and are often pressed to respond immediately to state policy initiatives without the opportunity for full campus discussion and consultation. Second, as a consequence of their public status, many of these institutions are caught in an often competitive system in which state college roles, prestige, influence, and resources are defined in relationship to those of the public research universities on one side, and community colleges on the other. Third, most state colleges belong to the American Association of State Colleges and Universities (AASCU), an organization engaged in research, development, publication, and lobbying in support of its members; and AASCU meetings and publications are influential in articulating and sharing values in the sector.

To the extent that a state college *sine qua non* exists, it would probably be the concept of "access." The colleges proudly proclaim their role in serving blue collar, first-generation, middle-American students, and defend the importance of offering education to those not served by "elite" institutions. Access is seen in perhaps its most elemental form at the historically black institutions that have traditionally admitted large numbers of underprepared students who were victimized by inadequate secondary school systems. Even at many of the older or multi-colleges, barriers to admission remain low enough to accommodate students graduating in the top two thirds or three-quarters of their high school class with special procedures set up for dealing with students not meeting even this modest criterion.

Access assumes more than just relatively non-selective admissions requirements, however, and the state colleges strongly believe that higher tuition costs are increasingly becoming a barrier to college attendance. With two other associations, AASCU was instrumental in forming the National Coalition for Lower Tuition in Higher Education, an "organized political effort to work effectively for low tuition, to make possible educational opportunity for all to fight for higher educational appropriations, which are necessary to make low tuition and quality education possible" (*Low Tuition Fact Book, 1983*).

Faced with competition from community colleges, which also support access and low tuition, state colleges are likely to point out to potential students the greater academic expertise of four-year college faculty members as measured by their relatively higher proportion of Ph.D.s, the advantage of remaining in a single institution and completing an entire program rather than suffering the discontinuities of transfer, and the higher completion rates and greater probability of achieving career goals found among students in four-year, as compared with two-year, colleges (Astin, 1977). Challenged for students by public universities in the same state, state colleges can call attention to their emphasis on teaching rather than research, and to the fact that their smaller size will lead to more personal attention. Another advantage that can be marshalled for state college support is that students at a state college will be instructed by experienced faculty, and not by graduate teaching assistants.

Although (with few exceptions) the state colleges are comprehensive institutions offering both liberal arts and professional programs, they clearly emphasize preparing students for careers. For the older institutions and multi-colleges this mission represents a continuation of the teacher-education tradition, although fields such as business currently predominate. Historically black colleges have always emphasized the role of education in preparing students to compete for employment in a discriminatory society, and the new colleges, many developed in urban areas during a period in which "relevance" was a watchword, often matched their programs to the expected vocational interests of their clientele.

The traditional arts and sciences thus play a secondary role in state colleges. They may assume greater importance in the future with renewed interest in "general education" as an essential degree component, although it is questionable whether concerns for improving competency in basic English and computational skills will eventually manifest themselves in more advanced humanities, science, and social science study. On some campuses, the liberal arts faculty have increasing difficulty in recruiting students interested in majoring in their areas; on others, liberal arts faculty see themselves as beleaguered "support departments," rather than as the college's intellectual core.

While many of these values derive from the traditions and expectations of the colleges themselves, they are reinforced by the colleges' status as agencies of the state. Driven by enrollment-related funding formulas, and with few opportunities to buffer themselves financially against short-term reversals, the colleges must offer what students want, regardless of what they may be thought to need, in order to survive. Faced with unlimited demands for service on one side, and the harsh realities of public accountability on the other, the colleges are moving away from a rhetoric of education and towards a rhetoric of administration and management. "Student credit hours per full-time equivalent faculty" becomes a term heard as often in the faculty lounge as in the president's office; fiscal exigency, layoff, and retrenchment become parts of the argot as well as the environment; and discussion of access, quality, and other core values is displaced by contingency planning, new management systems, and the need to collect data for external accountability purposes even though they may have little campus utility.

The Environment

Because of their mission, public control, and niche in the higher education system, the state colleges will remain vulnerable to developing social, economic, and political forces. In examining the potential effects of demographic changes upon various sectors of higher education, the Carnegie Council (1980) identified the state colleges as occupying a position of average to above-average vulnerability. This means that the sector might expect an undergraduate enrollment decline by 1997 of approximately 10 to 15 percent. Decreases at any specific college could be significantly larger, and would depend upon a number of factors such as location, programs, and the existence of other institutions competing for the same applicant pool.

Institutional resources are dependent upon enrollments, and in the scramble for enrollments created by demographic trends the state colleges are not likely to fare well against either the community colleges, which are usually less expensive and more convenient, or the doctoral or system flagship universities, which are more prestigious.

The state colleges are also not likely to have the political clout of either of these other institutions and so are less likely to achieve increases in public appropriations. Local community college boards often have direct access to revenue sources or agencies. They are usually composed of men and women with important local political connections who can forcefully articulate their college's needs in the battle for community fiscal support, and who both in terms of total numbers and connections, can be an important collective force in battling for additional resources at the state level as well. The trustees of research and flagship universities are fewer in number, but in many states occupy positions considered to be of great prestige and influence. They interact with legislative and executive bodies that often include large numbers of university undergraduate or law school alumni, and in addition may have a state-wide constituency developed through their university extension and outreach activities. In the past, the power of state colleges was often magnified by their close political relationships to state-wide teachers' organizations. But the state colleges' reduced emphasis on education programs has significantly diminished the strength of this traditional coalition.

The lack of a strong political base means not only that the colleges may have greater difficulty in acquiring resources, but also that they are easier targets for retrenchment. A recent study indicated that of 4,000 faculty members (1,200 with tenure) laid off or dismissed in the past five years in four-year colleges and universities, virtually all came either from state colleges or less-well known private institutions (Scully, 1983).

In search for new clientele, state colleges are likely to try to strengthen their positions in technical education, life-long learning, and community service, thus competing head-on with community colleges. They are also likely to expand their range of graduate offerings, particularly in professional areas, thus increasing their competition with the public universities. In both cases the political constraints they will encounter, from other institutions as well as from state coordinating boards, suggest that they are not likely to fare well.

The projected demographic changes will create many critical problems for the state colleges. As interest in career-related programs increases, issues such as the nature of general education and the relationship of the college to business and industry will have to be addressed. Enrollment shifts may force consideration of the very survival of certain traditional arts and sciences departments, and raise questions concerning what the "minimum core" of the liberal arts must be. Greater interest in accepting transfer students from community colleges may create increased difficulty in articulating programs to permit two-year students to transfer their previous work into the upper division. And, the state colleges will have to continue to experiment with new delivery systems and materials to respond to part-time, older students and other "new learner" populations, thus placing greater stress on already overloaded administrative structures and further reducing the possibility of developing a sense of campus community.

Resources

The personnel, facilities, and financial resources of individual state colleges are related to a number of variables including their history, location, and size.

State college faculty increasingly have terminal degrees in the areas in which they teach, although there are still smaller and more isolated campuses at which a faculty member with a doctorate is the exception rather than the rule. Along with other faculty, their earnings have been significantly eroded over the past decade. Average salaries in comprehensive state colleges in 1982-83 were $26,940, and in general baccalaureate state colleges $24,490 (American Association of University Professors, 1983). Their average salaries, as well as their salaries at each rank except instructor, were lower than those at public universities. The largest difference was at the full professor rank, with universities averaging $38,180, comprehensive state colleges $33,490, and baccalaureate state colleges $30,770. The average teaching load is about 12 contact hours a week (American Association of State Colleges and Universities, 1983b), higher than the 6 to 9-hour loads typically expected of university faculty. State college faculty are quick to notice these differences in teaching responsibilities and compensation—particularly in systems in which both types of institution are controlled by a single board—and to recognize that they reflect public perception of the state college's place in the academic pecking order.

Facilities run the gamut from outstanding to inadequate. In many states, community college physical plants, more recently constructed and less constrained by the regulations of state building agencies, are both more attractive and more functional than those of the four-year colleges. Libraries, science laboratories, and areas for instruction in technological subjects in particular were often constructed at state colleges for a smaller and more specialized student body, and may not have been improved to support new activities. Capital projects of any magnitude require approval at various levels of state government and often depend upon voter approval of bond issues. The state colleges are usually at a political disadvantage when they attempt to compete with public universities for these funds.

Over the past decade, due to depressed economies and projections of enrollment downturns, states have been particularly reluctant to approve new college buildings, and it is unlikely that in the near future those institutions with significant capital needs will find any relief. At the same time, renovations and other maintenance needs have been deferred to effect short-term savings. Since it is politically easier to justify the maintenance of buildings than the maintenance of faculty, some colleges may be called upon over the next few years to make budget trade-offs, and cut faculty to support the physical plant.

Equipment budgets have been particularly problematic for many state colleges. The movement into new scientific and technological arenas has not always been accompanied by appropriate equipment support. Expensive machinery or electronic components may be viewed as frills and disallowed by state budget offices, even though they are critical to the development of a sound program. Many colleges rely as much on gifts of used equipment from industry as on their own operating budget—when they can get the equipment at all. Particularly when dealing with rapidly changing biological and physical sciences, and high technology areas such as computer science, the colleges often find themselves instructing students on equipment no longer in use in the workplace.

This equipment problem has been exacerbated in recent years by restricted state budget support, and the tendency of colleges when faced with budget constraints to transfer funds from equipment and other accounts in order to maintain faculty positions. As a consequence, support for library books and equipment has become a critical issue for many campuses.

The educational and general revenues for the state colleges in fiscal 1981 came primarily from state and local appropriations (64%) and from tuition (19%), revenue sources that are highly sensitive to enrollment levels. Approximately 2% of revenues was from gifts and grants with 5% from other sources, and 10% from government grants and contracts, for a total of 17%. In contrast, public university revenues in these latter three categories were 4%, 7%, and 15% respectively, thus affording universities a larger buffer (26%) against revenue losses caused by enrollment declines or vagaries of the state.

The Chimera of Excellence

Excellence is easy to support, but difficult to define. Over the past 40 years in higher education the one word has come to refer to a rather narrow range of beliefs, activities, and outcomes, focusing attention primarily upon cognitive performance and meritocratic values. These are the characteristics of the "university colleges," which Jencks and Riesmen (1968) identified as providing the model to which other colleges aspire, but can never really achieve.

Probably nowhere in American higher education is the discrepancy between aspiration and performance more apparent than at the state colleges. Dunham (1969) clearly identified the irony that the developing transformation of their values (sometimes internally induced, sometimes externally imposed) has the potential to change first-class teachers colleges into third-class universities. However, even modest universities can evidence aspects of "excellence" if the definition is expanded sufficiently to include a wider range of desirable values.

The Dimensions of Excellence

Excellence is commonly thought of in terms of the academic performance of students as measured by achievement tests, of faculty qualifications as reflected in scholarly accomplishment, or of the reputation of an institution. Compared to major universities and selective independent liberal arts college, state colleges must be judged deficient on all these counts. Such a judgment, however, tends to overlook at least four important issues. First, colleges have many goals, not just ostensibly academic ones. Second, academic goals

themselves are often multiple, conflicting, and inconsistent. Third, the organizational and institutional structures and processes that facilitate the effective achievement of one goal often inhibit the achievement of another. There exists no college that can optimize achievement of *all* its goals. And fourth, perceptions of excellence depend on the constituency making the judgment. Legislators and parents, foundations and community groups, administrators and alumni, cosmopolitan faculty and locals, Merit Scholars and remedial students —all are likely to have legitimate definitions that differ markedly.

The notion of excellence also tends to become confused with other ideas that appear equally desirable, if no less difficult to specify—such as "standards," "educational effectiveness," and "quality." Of these, the concepts of standards and quality appear to denote student requirements or achievements at or above a stated criterion, while excellence and effectiveness may be considered related to the impact that an institution has upon performance. Since institutions have many purposes, it may be presumed that excellence or effectiveness may be of various kinds, and in fact one scholar has developed an instrument to measure nine "dimensions" of effectiveness as seen by various campus constituencies. These include student educational satisfaction, student academic development, student career development, faculty and administrator employment satisfaction, professional development and quality of faculty, system openness and community interaction, ability to acquire resources, and organizational health (Cameron, 1982). Of these, only two (student academic development and faculty quality) appear to be related to commonly held notions of excellence.

The relatively undimensional views in rhetorical vogue today ironically ignore the pluralistic approach to values that John Gardner (1961) identified as a foundation of excellence. This does not mean that all values are of equal worth in an institution of higher education, but it does suggest that there is no definition that can be universally employed.

The Measurement of Performance

Even if we accept a narrow definition of excellence involving only student intellectual outcomes, the problem of measuring excellence is not resolved. At least two approaches, criterion-referenced or value-added, can be taken. Using the former, we can presumably evaluate the comparative excellence of two institutions by measuring the knowledge or skills of the students they produce and comparing them to benchmarks. The institutions whose students obtain the higher test scores would by definition have the greater degree of excellence.

The value-added concept looks at the extent to which student performance has changed as a result of the college experience, rather than at the level of achievement reached. Institutions whose students evidenced the greatest amount of improvement would be judged excellent using this approach to measurement, regardless of the student's absolute performance level.

Comparisons of the quality of institutional student "outputs" indicate that they are related to the quality of student inputs so that relatively non-selective state colleges would be expected to have graduates with lower scores than the graduates of more selective institutions. However, there is no evidence to indicate that when the academic achievement of entering students is statistically controlled, the performance of students graduating from state colleges is noticeably higher or lower than that of students at other types of institutions.

It would probably be accepted as a matter of faith that, in general, state colleges have not achieved the same level of "excellence" as have selective liberal arts colleges or flagship research universities. It seems clear, though, that public perceptions of excellence depend not on educational process or on output, rather, on input. High standards of admission are considered to be evidence of excellence. To a great extent this creates a no-win situation for state colleges: low admissions requirements and extensive remedial education lead to demands for "standards;" low admission requirements and high attrition call forth attacks upon the "revolving door." But raising admissions requirements challenges the essential mission of the colleges to offer access to students of varying background and abilities.

Considering the dimensions of these issues provides new ways of looking at the concept of excellence. At some state colleges excellence will be achieved as scholarly and proficient faculty provide instruction to well-prepared and sophisticated high school graduates and hold them to universal standards of performance. At others, excellence will mean that dedicated faculty will introduce provincial students for the first time to profound ideas that will transform some and be ignored by others. Excellence may also be found at a college which accepts disadvantaged students and, in addition to providing basic skills and advanced vocational and

technical training, significantly improves their self-image, feelings of competence, and dedication to community service. A state college can also find excellence in serving as a protective halfway house for potentially brilliant students who would be unable to cope immediately with a university environment, as a workshop in which students can experience racial integration for the first time and develop the understanding and tolerance necessary for helping to build a multicultural society, or as a training center from which business and industry can draw competent and stable students to fill technically demanding positions. Through various activities state colleges can also increase the aspirations of potential students, expand the cultural life of a community, assist its economy, and provide opportunities for life-long learning. In these, and many other ways, "excellence" can be manifested, even if it cannot be precisely measured.

External Constraints on Excellence

While there may be disagreement concerning the dimensions of excellence, there are clearly a number of factors that make it difficult for some state colleges to be as effective as they might. Externally these factors include state/system coordination and control, funding provisions, and collective bargaining.

State coordination and control. During the past 15 years there has been an increasing tendency for decisions of campus importance to be made by groups external to the campus. In some states, individual state colleges have no independent board of trustees and are controlled instead by a single consolidated governing board responsible for a system of two or more institutions. These systems sometimes also include institutions that are not state colleges. There are 118 state colleges (31% of the total) functioning under such an arrangement. In addition, there are a large number of state colleges that have their own trustees but that remain subject to the authority of a state coordinating board that has extensive budgeting and rule-making authority. Both consolidated governing bodies and state-wide coordinating agencies can be referred to generically as "superboards." In most cases, institutions in states without superboards are subject to similar control and review by other agencies of state government, particularly in their fiscal and capital operations.

The actions of superboards tend to remove from direct campus control many critical aspects of institutional functioning, often including new program development, facilities planning, personnel policies, administrative structure, research activities, internal budget allocation, and the like. In the name of accountability such agencies can become exceptionally intrusive concerning the internal conduct of campus business. Moreover, the need to deal with a large number of disparate institutions leads to the creation of uniform regulations to bring presumed order out of apparent chaos and to offer the appearance of fairness. Many such systems were created both to provide governmental oversight and to protect the campuses from improper governmental intrusion. The ambiguity of this charge is difficult to resolve to the mutual satisfaction of both campuses and governors, and faculty and administrators at many institutions are convinced that these agencies exist primarily to carry out the will of the state, rather than to protect important institutional interests.

Superboard members are usually political appointees and, like all trustees, fulfill their responsibilities on a volunteer, part-time basis. As these systems have become more complex and difficult for lay persons to understand, effective influence has often shifted from superboards themselves to their staffs, which conduct the day-to-day business of the boards. As the locus of functional authority moves sequentially from campus trustees, then to superboards, and finally to complex state bureaucracies, colleges may begin to operate more as regulated utilities than as institutions with an identifiable character, style, and environment.

It can be debated whether the decisions made by disinterested superboards, acting from a broader perspective and assisted by extensive staff expertise, are "better" than those made by local campuses with more parochial and presumably self-serving interests in mind. Even if data were available to inform such arguments, they miss an essential point. Placing limitations on campus autonomy leads to feelings of powerlessness and anger on the part of college faculty and administration alike. Their sense of ownership of the enterprise is eroded, their professions become a job, and accountability disappears because authority is too diffused to be grasped. Faculty may find refuge in their personnel interests; administrators may find it in adherence to rules and regulations. The acknowledged reduction in morale and levels of personal commitment is evident to the state, and is used to justify further intrusions.

Funding provisions. State college funding arrangements have several common characteristics: they are enrollment driven or enrollment related, provide limited flexibility, offer few incentives for prudent management, and are uncertain. Each of these can severely constrain an institution's concern with excellence.

Enrollment-related formulas as a primary mechanism for determining support levels for state colleges were a major advantage during the growth era of the recent past but are now a significant handicap as colleges enter a period of stasis or decline. Although some states have moved beyond simple formulas toward more sophisticated models with time-lag provisions, and others are attempting to develop non-enrollment-related alternatives, many state colleges have little protection from environmental shifts. Issues related to student retention, grading, and transfer, for example, must thus be considered with an eye towards their impact on enrollment as well as upon educational quality. Low enrollment programs, regardless of their educational merit, are particularly vulnerable, not only from administrators under pressure to reallocate resources but also from superboard staff members anxious to identify (and then to regulate) such "obvious" examples of inefficiency and organizational slack.

Regulations that limit flexibility. Regulations often constrain the expenditure of funds even after they are allocated to a campus. In many institutions, budget line items developed 18 months earlier cannot be channeled to different areas which a changed environment might require without extensive negotiation with, or approval by, various state agencies. Other rules (in areas such as purchasing, for example) often prevent colleges from securing supplies and equipment not covered by master state purchase agreements, or require extended sequences of advertising and bidding with absurdly low dollar thresholds. These kinds of limits upon flexibility prevent administrators from responding to emerging needs in a timely manner, and contribute to feelings of powerlessness. They can also create tensions between administrators and faculty who, unaware of external constraints, are likely to attribute intolerable delays to inefficiency and lack of support for academic priorities on the part of campus administrators.

Incentives for prudent management. Management incentives are provided to a college if money saved by efficiency in one area can be applied to another, and savings generated during one time period can be used in the future. At public institutions, inflexibility in making expenditures inhibits the former; the annual budget and appropriation cycles of the state usually prevent the latter. For most colleges, funds must be spent in the year appropriated, and unexpended balances revert back to the state treasury. At many campuses, this inflexibility leads to end-of-budget-year spending orgies for equipment and supplies, whether essential or not. This apparent irrationality becomes understandable when it is realized that state budget offices may use the existence of unexpended balances (often created by their own byzantine regulations) to reduce future budgets on the grounds that they indicate a lack of need.

Uncertainty. In state college budget support, uncertainty is an accepted phenomenon, but one which has recently taken on new dimensions. In the past, state colleges would typically plan their budgets in cycles beginning 18 months or more before the fiscal year, even though the actual appropriations would, in some cases, not be decided upon until the fiscal year was well underway. Under such circumstances, institutions had to be extremely conservative in making expenditure decisions, and positions often remained unfilled because they were approved too late to permit adequate recruitment. Once authorized, however, institutions could generally count on expending their annual budgets, subject only to the annoyances in some states of pre-audit controls, and the regular demands in other states for savings during the current year.

Within the past few years, however, this has changed. Colleges in some states have been faced with the threat, and in some cases the actuality, of significantly altered budgets resulting from state fiscal crises during the current fiscal year itself. In some cases projected discontinuities have been great enough to lead superboards to propose changes in personnel policies that would permit colleges to circumvent existing regulations concerning periods of notice of faculty termination, or to specify criteria for a declaration of "fiscal exigency" that would presumably permit the layoff of tenured faculty in response to sudden financial shortfalls. The effects on faculty morale of such proposals, let alone their implementation, can be devastating.

Collective bargaining. Contracts with faculty unions exist on approximately one-third of all state college campuses, making them one of the most unionized sectors of American higher education. Although bargaining appears to be related to reduced institutional effectiveness (Cameron, 1982), it is likely that bargaining is a consequence of ineffectiveness rather than a cause. To a great extent, faculty interest in unionization is a defensive response to the feeling of powerlessness and loss of campus control created by increased intrusion of the state. Once in place, however, unionization may ironically tend to strengthen the centralization that created a desire for it. It may also accelerate tendencies towards uniformity (particularly in multicampus

systems in which one contract is negotiated covering all institutions), towards loss of academic focus (particularly in those situations in which employees other than faculty belong to, or are a majority of, the bargaining unit), and toward increased intrusion by the state (particularly in states in which "management" is represented at the bargaining table by a public official unrelated to the college administration or board).

Internal Constraints on Excellence

The status and expectations of faculty, and the background and preparation of students, are important internal considerations affecting institutional excellence.

The status and expectations of faculty. Probably the single most critical faculty-related influence currently affecting organizational functioning in many state colleges is high tenure density. Until recently, it was common practice to award tenure to almost all faculty members completing the probationary period. Although aggregate data (NCES, 1980) indicate that approximately 62% of full-time faculty in public four-year institutions are tenured (higher than the 54% seen in all institutional types combined), a large number of the state colleges have a tenure density of between 75% and 90%. This builds inflexibility into the system, as it becomes difficult or impossible over the short term to adjust staffing allocations in response to discontinuities in enrollment patterns. Tenure density poses a particular problem for the state colleges because they cannot increase flexibility through the use of graduate assistants as the universities do, nor do they rely on part-time instruction to the extent of community colleges.

A related phenomenon is the tension that exists on some campuses between the "old" faculty, often from education or related areas, with doctorates (if they have them) from second-tier graduate institutions, little if any scholarly productivity, and senior rank, and the "new" faculty, often of lower rank, trained in research-oriented doctoral programs of national reputation, and recruited to bring their institution into the academic mainstream. These two groups are likely to have different expectations about the proper processes and criteria for personnel actions such as promotion, differing perceptions about the appropriate role of faculty in governance, and different views of what the role and mission of the institution should be. Given the frequent lack of a clear institutional identity there are often no consistent norms or values that can help to resolve these differences, and the contending parties may fall back upon bureaucratic or political mechanisms to arrange temporary working truces. If consensus cannot be developed on the relative emphasis that should be placed on teaching (or the means of assessing it), or the importance of scholarship and publication, then seniority reigns by default. The old guard versus young Turks conflict is present in its rawest form when junior faculty see themselves held to new standards of performance that were not applied to the senior faculty who now judge them, and high tenure densities mean a lower probability of achieving tenure, even for the best and the brightest of the newcomers.

Students. State college students cover a wide range of abilities and aspirations that in many ways makes them typical of higher education enrollment in general. Compared to freshmen at all institutions in 1983, for example, state college freshmen closely resembled overall averages in their political orientations, high school grade distribution and rank in class, family income distribution, high school courses taken, and in the proportion planning to study for a higher degree (Astin, Green, Korn & Maier, 1983). As with other freshmen, their major reasons for going to college were (in rank order) to get a better job, to learn more about things, and to make more money.

Approximately 39% of state college freshmen report high school averages of B+ or higher, making them, on average, academically stronger than students in some institutional categories (for example, public community colleges, where the figure is 27%), but weaker than students at others (for example, public universities, where the figure is 54%). Approximately 21% of state college freshmen report high school grades of C+ or lower, identical to the national average but twice as high as in public universities. It is likely that at all levels of academic performance there are a number of indifferent students for whom college is a socially acceptable means of marking time. It may even be that this number is increasing.

Conclusions about Excellence

An assessment of the present level of excellence in the state colleges depends to a great extent upon the definitions chosen and the reference groups selected. Although there are few hard data to support any clear conclusions, one would be hard-pressed to develop a strong case that the alleged "rising tide of mediocrity" has diminished the effectiveness of the state colleges as a group. Indeed, both short-term and long-term evidence suggest the contrary.

Short-term data. An example of short-term data includes a recent survey of higher education institutions (Watkins, 1983b) in which chief academic officers reported that new faculty hired in 1982 were more competent than those hired a year earlier. These data, disaggregated for state colleges, further indicated that faculty were seen as more concerned about their teaching and student advisement responsiblities, more willing to innovate, and more productive in terms of research and scholarship than previously. Overall, 58% of the respondents considered the quality of state college faculty performance to be increasing, while only 3% believed it to be decreasing. At the same time, it was reported that secretarial and related support for faculty was decreasing (although support for research was up), teaching loads had slightly increased, and other workload responsibilities in advising, committee work, and related non-classroom functions had become higher. In general, it appeared as if resources to support the enterprise had diminished, but quality, at least in terms of faculty performance, had increased.

A similar earlier survey (Minter & Bowen, 1980) compared the characteristics of state college faculty, students, and finances in 1979-80 with those of the previous year. Again, teaching load, advising, and committee responsibilities were all seen as increasing, while secretarial and travel support were seen as decreasing. In addition, the survey asked state college chief academic officers, student personnel officers, senior faculty, student newspaper editors, and presidents of student bodies to evaluate changes in the quality and content of educational programs during this time period. The general consensus of all groups (with the occasional disagreement of the student newspaper editor) was that there had been improvement in the overall quality of the learning environment, the quality, competence, and performance of the faculty, the rigor of academic standards, the availability of a wide range of student services, and creativity and innovation in teaching. Overall, the chief academic officers and chief student personnel officers of state colleges overwhelmingly reported an increase in the "overall quality of student learning." The presidents of these institutions reported the same patterns of increased effectiveness and decreased resources. Although almost 60% of the presidents surveyed said their institution was losing ground financially, 48% said the academic condition of the institution was improving (none said it was losing ground), and 52% noted an increase in the quality of student services.

Long-term data. The responses of college presidents must be viewed with a good deal of caution. Presidents tend to be optimistic, particularly when reviewing changes of quality that have taken place under their stewardship (presumably as a consequence of their educational and fiscal leadership). Faculty, on the other hand, may tend to be much more critical about their institutions. For this reason, the results of a recent study (Anderson, 1983a) of faculty perceptions of changes in institutional functioning over the 10 year period from 1970 to 1980 is instructive. Based upon responses to the Institutional Functioning Inventory (IFI), state college faculty perceived improvements in a number of areas, including development of the intellectual and aesthetic extracurriculum, concern for undergraduate learning, and concern for advancing knowledge on their campuses during this 10 year period. At the same time, they saw their colleges as becoming more diverse in terms of the backgrounds of students and faculty, and as being more concerned with meeting local needs than had previously been the case.

In addition, there appeared to be a slight increase in faculty morale during this 10 year period, even though morale at these institutions continued to be among the lowest of all institutional types included in the study. A review of state college faculty responses to specific IFI items (Anderson, 1983b) related to concern for undergraduate teaching indicates that, compared to 1970, faculty in 1980 were more concerned about how to communicate knowledge to students, more willing to talk to students about their personal concerns, more sensitive to the needs and aspirations of students, and more willing to consider teaching effectiveness in

recruiting new faculty. Complementing this emphasis upon teaching, faculty also saw research and related scholarly activities receiving greater emphasis by college administrations and boards, and being reflected in an increase in faculty publications. When asked to respond to the item "The college is doing a successful job in achieving its various goals," 65% of the faculty agreed in 1980, compared to 59% in 1970.

If the quality of faculty and programs is seen as improving, there is a general consensus that the quality of state college students, as defined by traditional measures, has been deteriorating. State college student scores on the Scholastic Aptitude Test declined moderately between 1970 and 1980, paralleling the decline seen in all other higher education sectors (Anderson, 1983a). Chief academic officers at state colleges reported declines between 1978-79 and 1979-80 in the secondary school preparation of their students in reading, writing, and mathematical skills, and in preparation in the humanities, social sciences, and sciences (Minter & Bowen, 1980). More recent data collected from chief academic officers suggests that there has been little if any improvement in student preparation, even though academic standards and grading practices are reported to be more rigorous (Watkins, 1983a).

Evaluating the level of excellence. There is a tendency to define a problem in terms of availability of data. Pointing to test scores and relying on judgmental reports, recent criticisms of higher education have tended to obscure the fact that there is a dearth of information that might reflect educational quality more directly. The data now available do not tell us whether students are now learning more or less than in the past, whether the increase in remedial education has resulted in more or less social justice, whether graduates are more or less able to function as effective citizens and workers, or whether the state college student is more or less likely to lead a life of increased meaning and reward as consequence of having matriculated.

To some extent, present concern about the state colleges is a reflection of the continuing tension in this country between the proponents of mass and elite higher education. Critics of the level of excellence in the state colleges point to lower admissions test scores and increases in the number of remedial courses offered as indicators of serious problems requiring attention. These criticisms are often leveled without recognition of the political and social environment which led these institutions to become more flexible in offering admission to previously underrepresented groups and to take steps to ensure that the open door offered reasonable opportunities for success for these underprepared students.

It is useful to examine the condition of excellence in the state colleges and to ask how they might be improved. At the same time, considering their political and financial constraints, their heterogeneous student bodies, and the many conflicting claims on their resources and energies, an equally intriguing question is how they have managed to be as successful as they have been. Care must be taken to avoid having well-meaning proposals inadvertently disrupt those aspects of institutional functioning that have permitted the creditable performance of a most difficult task.

The major thrust of recommendations by national as well as by state-wide commissions and study groups working to improve the quality of the state colleges appears to focus attention upon raising admissions standards and on moving towards the elimination of remedial courses at the college level. These are appealing ideas to some, not only because they begin to clarify some of the differences between secondary and higher education that have become blurred over the past decade, but also because they are likely to reduce enrollments and save state funds.

The nature of the proposed solutions puts into bold relief the underlying values accompanying the concept of "excellence." The solutions appear to be based on a criterion-reference rather than a value-added approach, and to take a unidimensional rather than a multidimensional view. They apparently accept the notion that quality can be improved by inspection, rather than be built in by the application of resources to students, and also seem to think that excellence can be appropriately addressed by controlling input rather than by improving the delivery systems and strengthening the educational process.

Two diametrically opposing approaches can be taken towards of achieving excellence in the state colleges: one remedial, the other developmental. The remedial approach finds great deficiencies in the quality of the state colleges that must be corrected through bold initiatives. These include delineating the mission of the colleges with greater precision, raising admissions standards, requiring satisfactory student scores on achievement tests as a condition for moving from sophomore to junior status, further centralizing program development and curriculum evaluation processes to assure uniform application of traditional quality standards, and abolish-

ing tenure or reducing the time required for notice of faculty termination to make allocation of personnel resources more responsive to student needs. Each of these structural changes might increase excellence as traditionally defined, but could also have significant unintended and unavoidable negative, long term consequences. For example, centralizing program criteria and review processes could stifle innovation, and abolishing tenure would almost certainly reduce faculty esprit and institutional commitment, and lead to an increase in faculty unrest. And, while erecting barriers to access will raise test scores, this is unlikely to increase social equity, or raise the level of national discourse.

The developmental approach recognizes that the condition of the state colleges is the result of many societal and educational forces over which the colleges have had relatively little control. To try to delimit the goals of these institutions is, in a real sense, an attempt to delimit the goals of the complex, multifaceted society that these colleges have been asked to serve. The developmental alternative is to maintain the present configuration of these colleges and attempt to improve them at the margins. Fiscal support for programs and activities that enrich and refresh tired faculty, support services that demonstrate societal commitment to the education of the young, enough budget slack to make life more pleasant (but not luxurious), and sufficient autonomy to encourage people of talent and conviction to consider campus administration as a career—each of these could make a real contribution to state college excellence, however, defined.

Notes

1. Using the new classification system of the National Center for Educational Statistics (NCES), the category "State Colleges" includes 256 public colleges identified as "Comprehensive Institutions," and 121 categorized as "General Baccalaureate Institutions." The concept of "comprehensive" as used by NCES refers to the extent to which an institution offers post-baccalaureate, non-doctoral programs. In contrast, in this study the term "comprehensive" is used to refer to institutions characterized by a mix of liberal arts and professional programs such that no more that 80% of its degrees are awarded in either category.

2. Unless otherwise identified, statistics contained in this paper have been calculated by the author from data supplied by the National Center for Higher Education Management Systems (NCHEMS) from current NCES tapes.

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The American Liberal Arts College in The Eighties: Dinosaur or Phoenix?

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The Form and the Ideal

The American liberal arts colleges of the 1980s present a study in successful and less successful adherence to a form and to an ideal. Both the form and the ideal in question have roots in the distant past; the form is a legacy of twelfth-century Europe and the first universities in the West; the ideal derives from fifth and fourth century B.C. Greece and the citizen's education in Athens. To paraphrase George P. Schmidt's (1957) reference to the curriculum of seventeenth-century Harvard, the path from twelfth-century Paris to the American liberal arts college is devious, but recognizable, as is the path from fifth-century Athens to the ideal of liberal arts education embodied in the same American institution. It is where these two strains met and encountered the Puritan/Calvinist conviction that proof of God's favor was to be found in productive work that we find the roots of both the strength and the weakness of the American liberal arts institution of the twentieth century.

Although liberal arts institutions have been a dominant force in American higher education for nearly 300 years, in the 1980s they have come to constitute a small and decreasing proportion of the postsecondary education commonwealth. From 1640 (the year Harvard College reopened) well into the early decades of the 1900s, the independent (non-university affiliated) undergraduate liberal arts college was the most widely accepted means of higher education for most American students, and served as the door through which many passed to advanced study. At the turn of the century a French scholar (Levasseur, 1899, p. 1438) describing American higher education observed that two-thirds of the students enrolled in American post-secondary institutions were to be found in undergraduate liberal arts colleges. Well into the twentieth century these institutions continued to attract a large share of those students seeking baccalaureate degrees—even as the more complex universities, teachers colleges, agricultural colleges, and junior colleges were growing in number, size, and influence.

The years following World War II brought many changes to American society and to American education. Post-secondary education expanded in type, scope and number of institutions, and the relative position of the liberal arts college began to recede. In 1955 some 732 out of a total of 1,854 higher education institutions were identified as liberal arts colleges; these colleges registered 26% of the fall 1955 enrollment (Educational Policies Commission, 1957). By 1969 the number had decreased slightly to 721, registering less than 10% of total post-secondary enrollment; but the total number of institutions was then 2,837. By 1976 the Carnegie Council identified only 583 liberal arts colleges enrolling 5% of total post-secondary students; and by then the total number of higher education institutions had reached 3,074 (Carnegie Council, 1976).

It is little wonder that those observing the decline in position of the liberal arts institutions should begin to question the continued viability of these colleges. Mayhew (1962) characterized the liberal arts colleges as "a minority group in the presence of a majority composed of other, larger and more complex types of institutions of higher learning," and saw the attempt of these colleges to carry on the liberal tradition in the face of the increasing vocational orientation of much of American life as exceedingly difficult, perhaps impossible. Keeton and Hilberry (1969) began their report on selected liberal arts colleges with the words "The typical private liberal arts college of the mid-twentieth century is obsolete." More recently, Henry Steel Commager (1977) answered his own question—"Can the American college survive?"—by writing that the independent liberal arts college was in trouble, that it was having both an identity crisis and a financial crisis, and that he could only wonder if the college could "extricate itself from these troubles which now undermine its prosperity and imperil its existence."

Stadtman (1980) suggested that it is not so much dissolution as transformation that threatens the future of the liberal arts colleges. By taking on more of the character of comprehensive colleges they are in danger of

losing their special identity; ahead is the "impending bankruptcy and failure of the liberal colleges," because "the liberal arts cannot be served in the special way this is possible when they are virtually the exclusive concern of an institution." Kerr (Keeton, 1971) is more optimistic in his introductory statement to a later Keeton volume; he writes of "a renaissance of the liberal arts college," because "they are by nature more adaptable to the new concerns of so many students, while the more massive institutions are clearly in greater trouble—some of them are turning to their own internal arts colleges to respond to students' concerns." Pfnister and Finkelstein (1984) found surprising vitality among 23 institutions in a national sample studied over a two-year period of time; these colleges not only survived the difficulties of the 1970s and the years preceding, but were entering the 1980s with a measure of strength and a determination to maintain a liberal arts emphasis.

On the other hand, Astin and Lee (1972) characterized those schools they labeled "invisible colleges" as preoccupied with survival, limited in academic resources, in financial difficulty, lacking a sense of identity, and facing severe competition from other institutions. Anderson's (1977) study of 40 single sex and/or religious colleges between the mid-1960s and mid-1970s found over half instituting significant changes in character. Anderson also noted, however, that to determine whether such changes would ultimately be successful was "not unexpectedly...complex," and that it is difficult to predict what the future would hold for these institutions.

Judgments about the viability of the American liberal arts college, often drawing on different sources of information, shaped by different research questions, or based on the examination of different samples of institutions, are obviously mixed. Although dark predictions appear to outnumber more optimistic assessments, the colleges have survived, increased in enrollment (if slowly), and experienced renewal, as institutions that closed are replaced by new ones. What then is the status of the liberal arts college in the 1980s? Are recent problems only matters of passing concern, or are they symptoms of an uncertain future?

It is the thesis of this essay that resolution of such questions is more likely to come from a reexamination of the historical development of both the *form* and the *ideal*. It is in this history that one finds the language, the rhetoric, and the traditions that undergird these institutions.

The Form of the College. Within 18 years of the founding of what was later to be named Harvard College, there were in the colony of the Massachusetts Bay Company approximately 100 Cambridge graduates and a third as many sons of Oxford (Rudolph, 1962). It was inevitable that any college created by these colonists would be patterned after the older foundations of England. In spite of limited resources and the lack of an established body of masters and scholars, when Henry Dunster in 1650 called for a restructuring that would identify the college as a Corporation of President and Fellows, he was placing Harvard College in the tradition of the English universities and their source, the University of Paris. In that tradition the term "college" had a special meaning.

It has been said that in the Middle Ages, "college" and "university" were terms used interchangeably. While correct in reference to the earliest efforts of Western academic institutions, it is not accurate to equate *university* with *college* when these institutions of learning assumed more formal structure (Cobban, 1975). The word *universitas* as a general term applicable to any kind of aggregate or body of persons with common purposes and independent legal status became the convenient label for the academic body only in the late fourteenth and early fifteenth centuries. An academic corporation had the right to grant degrees, and a complete academic *universitas* was one that possessed the higher faculties of theology, law, and medicine. The *collegium* came to be associated with the early hospices for the advanced students in the academic *universitas*. The first such hospice established for the University of Paris was one purchased by Jocius de Londinis in 1180 at the Hospital of the Blessed Mary of Paris, the Hotel Dieu, near the Cathedral of Notre Dame (intended to house 18 "poor clerks," it was named the College des Dix-Huit). Some 77 years later, a similar establishment by Robert de Sorbon, chaplain to Louis IX, in 1257 or 1258 provided the kind of governance structure that came to characterize later colleges of the university.

At first designed to provide maintenance and support for older students who could not otherwise afford to stay at the university, the colleges began to take on instructional responsibilities with the decision of the College d' Harcourt to admit paying scholars and for the master and/or his assistants to provide tutorial help for the scholars in the college. This instructional responsibility increased as the number of paying scholars increased. At Navarre, the master was required "diligently to hear the lessons of the scholars studying in the Faculty of Arts and faithfully to instruct them alike in life and in doctrine" (Shachner, 1938). Earlier in the development of the university, the arts students were left much to themselves, although to study in the higher

faculties, one had to master the seven liberal arts which by then were the necessary prerequisite for study in the university, especially in theology. With the assumption of more instructional responsibility, the colleges admitted young students and soon became identified with preparatory studies in the arts. The limited lectures and reviews provided in colleges to supplement teaching in university schools gradually expanded, and in time colleges were able to provide full-time employment for the more qualified regent masters. By the fifteenth century the colleges were competing with the schools of the university, and the University of Paris was changing from a voluntary association of masters, each with his individual school and his own quota of pupils, to an association of colleges with full-time masters.

In England, the colleges of Oxford and Cambridge evolved out of general hospices into teaching units as in France, with one important difference: the English foundations from the beginning were independent corporations whose members owned and administered their endowments. The independence of the colleges was increased when Elizabeth I approved new statutes in 1570 which gave authority to elect the vice chancellor of Cambridge to the masters of the colleges. Oxford colleges gained similar authority in 1628.

The idea of the arts college as a residential and instructional entity designed to prepare students for admission to the advanced faculties that constituted the university proper had already experienced significant changes in France and Germany when the first American institutions were established. By the middle of the seventeenth century the ancient French universities were in decline, almost displaced by the Jesuit system of colleges, and these colleges were essentially secondary schools. By the middle of the next century the University Faculty of Arts had also taken on the character of pre-university secondary unit.

In England, in the early seventeenth century, the arts colleges were still at the height of their power as residences and teaching units. The superior, or advanced, faculties were by comparison underdeveloped, and the fellows of the colleges found themselves increasingly involved in undergraduate instruction primarily dedicated to the single aim of the "virtuous education of youth" (Curtis, 1959). As the seventeenth century wore on, the all-university lectures regained importance, and the emphasis in the undergraduate colleges shifted from general studies to specialized studies in the arts. Later the function of preparatory level arts study came to be the responsibility of the secondary grammar schools.

It was the English college of the late sixteenth and early seventeenth centuries that became the informing pattern for the North American colonial colleges, and while the English colleges continued to evolve, the colonial colleges maintained and perpetuated their adopted structure. It is not surprising that the American institutions began from the English pattern; indeed, it would have been surprising if they had not done so. Also, in retrospect, it is not surprising that the form, once adopted, underwent little change over the next 150 years. At least two factors contributed to this status: (1) American colleges were self-contained institutions, created to serve a particular constituency, and were relatively isolated from one another; and (2) they were independent foundations, responsible to local boards of control consisting of lay persons. As self-contained institutions, geographically isolated, they remained small, limited in scope, and equipped to provide little more than instruction in the arts sequence. As independent foundations, they were created by and responsive to conservative lay boards.

With the form of the residential preparatory school firmly in place, the new condition of nineteenth-century America could only lead to continuing tension between the established form and growing demands for new types of education. From the beginning, the colonies that were to become the United States also had a deep pragmatic strain. Calvinist New England found in productive work proof of God's election and bounty. The development of the nation required doers as well as thinkers.

Then, as the nation expanded westward, the colleges followed, for an important way of proving that a new settlement would soon be a great city was "to provide it as quickly as possible with all of the metropolitan hallmarks," which included not only a newspaper and a hotel, but an institution of higher learning, or at least one that aspired to be a seat of higher learning (Boorstin, 1965). Colleges or institutions aspiring to be colleges were springing up overnight, and many disappeared as quickly. It is estimated that by 1860 as many as 700 colleges had been created and had gone out of existence.

The traditional college was hard pressed to meet the new demands. Philip Lindsley turned down the presidency at Princeton to become the first president of the University of Nashville and argued in his inaugural that "the farmer, the mechanic, the manufacturer, the merchant, the sailor must be educated" (Rudolph, 1962). James Marsh, as president of the University of Vermont, was creating, or attempting to create, new programs

in that institution. Jacob Abbott spearheaded reforms at Amherst, and although the reforms were short-lived, they pointed the way to broader and more inclusive curricula. In the face of such threats to tradition, the Yale Corporation in 1828 issued a report calculated to call the American colleges back to the agenda, holding that the form of the college was that of a preparatory institution, "to lay the foundation of a superior education" (Hofstadter & Smith, 1961).

The Ideal of the College. The American liberal arts college was heir to an ideal as well, and the report of the Yale Corporation was concerned also with the ideal. The ideal was rooted in the Athens of Aristotle, but the modifications that occurred between Athens and the New World Cambridge were profound.

In the Greece of Aristotle, education was viewed as an art. The word we translate as education is *paideia*, meaning "culture" as well as "education," and implying growth in experience as well as knowledge. Hellenistic Greek education was divided among a whole series of teachers. Elementary school masters (or *grammatistes*) taught the young person to read, write, count, and perhaps to draw. Music was under the instruction of a music master, or *mousikos*. Gymnastics was taught by professional teachers known as a *paidotribes*. Then, around the age of twelve, the young person began the study of literature, of Homer and poetry in general under a *kritikos* or *grammatikos*. At that time, study also began in advanced math under the mathematics master, *geometres*. The whole process, conducted over time, constituted the *encyclios*, a term meaning "ordinary" or "of every day occurrence" as well as "cyclic." Thus, the *encyclios paideia* was the education of the free man, the Greek citizen—as distinct from the foreigner or slave (Gwyn, 1926).

It was this *encyclios paideia* that became in Latin the "artes liberales" or "liberalis disciplina," the liberal arts. Seneca takes note that what the Greeks called *encyclioi* the Romans termed "liberales."

For the Greeks, specialization was unknown. Knowledge was not of facts but of the general principles that would later help one to a proper use of the knowledge that opens the mind to discovering the basic principles of a science. Each science, this theory holds, has its own art, or *techne*, framed by human reason and binding together the details of knowledge in a single coherent system.

Over time the contents of the *encyclios paideia* became more or less standardized, and the Greek experience modified by Roman experience was carried into western Europe through Martianus Capella (410 A.D.) in the allegory of the seven liberals arts (Stahl, Johnson, & Burge, 1977).

While Martianus Capella provided the encyclopedic description of the seven liberal arts, it was Cassiodorus (477-565 A.D.) who shifted in significant ways the nature and function of the arts. Cassiodorus, who held positions of responsibility under Theodric, retired to a monastery which he had founded and organized according to the Benedictine rule. There, he played a significant role in fostering the preservation of secular as well as ecclesiastical knowledge among the monks, giving the Benedictines the impulse to intellectual work for which they were distinguished during medieval times. It was he who found scriptural sanction for making the study of the seven liberal arts the appropriate preparation for the study of theology.

But Cassiodorus was also responsible for making more precise the distinction between the lowly arts and the liberal arts. In spite of the fact that he himself had a knack for mechanical inventions and occupied himself with developing sun dials and water clocks, he argued for making a clear division between the products of the mind in its relation to the spiritual and the works of the mind in its functional connection to the physical world. The liberal arts he praised and the mechanical arts he viewed as inferior. For Cassiodorus, the liberal arts were not preparation for the citizen and freeman but the training of the mind for the study of theology: not preparation for life, but a formal sequence that turned away from the world of work and experience and led into the professional intellectual activities.

Thus, in time, the arts cycle or sequence became the preparatory pre-university sequence in Paris, Oxford, and Cambridge, though in the latter, the advanced studies were underdeveloped. No longer the *encyclios paideia* of the Greeks, the stepwise education of the citizen, the seven liberal arts had in the medieval university become preprofessional training of the select few who would go on to study in the advanced, or superior, faculties, and the emphasis was on the grammar, rhetoric, and logic of the trivium. It was this tradition, modified by the English college experience that came to the foundations in the New World.

Three Strains. It was to make a statement about *form*, *ideal*, and *work* that Yale spoke out in 1828. Ticknor at Harvard, Lindsley at Nashville, Marsh at Vermont, Abbott at Amherst, and many other lesser known reformers questioned the *form* and the *ideal* of the traditional college of the early nineteenth century, and they sought to work out new accommodations with what they perceived to be the needs of the day. In this context the Yale Corporation issued its report defining the nature of liberal education, for itself and others who wished to hear.

The object of the college, Yale said, "is to *lay the foundation* of a superior education." The college is not designed to include professional subjects; its object is not to "teach that which is peculiar to any of the professions," but rather to "lay the foundation which is common to them all." This foundation education consists of two ingredients: the discipline and "the furniture of the mind." The task of the college is to expand the powers of the mind, and also to store it with knowledge that opens the way to future training. In referring to "separate schools for medicine, law, and theology, connected with the college, as well as in various parts of the country," the report used the language of the medieval university in which the higher, or superior, faculties were medicine, law, and theology. And, in emphasizing that these advanced schools were open "for the reception of all who are prepared to enter upon the appropriate studies of their several professions," Yale was describing the ancient arts faculties and the residential colleges of Paris, Oxford, and Cambridge.

Condemned and praised, faulted for its adherence to an outmoded faculty psychology and to a subject matter deemed inappropriate to the needs of an expanding nation, but also held up as a vigorous defense of humanism and the liberal arts, the Yale report nonetheless had its impact. From that point on, the American college curriculum could not be understood without reference to this first major effort to identify the philosophy and the content of the American system of higher education (Rudolph, 1977). In the years to come, any description of the liberal arts college in the American system would have to redefine the relations among a preparatory unit (whether for two or three or four years duration), the skills and knowledge presumed to be developed in this unit, and the way in which the unit is, or is not, related to the world of work.

The American college could never remain static in its treatment of *form* and *ideal*, or in its relation to the world of *work*. Indeed, most of the next 75 years of the nineteenth century were taken up by debates over the proper distribution of the elements in a responsible and responsive collegiate institution. There was the Yale pattern, followed by many, but new combinations and permutations arose with increasing frequency. Additionally, the *ideal* did not remain the possession of the independent college. As the American university took form in the later years of the century, there were those who argued for a clean break between preparatory and advanced professional and technical studies, proposing that advanced studies be reserved for the university and preparatory general studies to be the preserve of the college. Others argued against drawing such a sharp line, holding that professional studies without collegiate education were inadequate. The latter view prevailed, and the new American university became an amalgam of the older collegiate ideals and the newer advanced professional studies.

As a consequence of the university's assumption of a dual role, there seemed to be little left for the independent liberal arts college to provide. But the older collegiate institutions persisted, and made their own adaptations to the new conditions.

The first decades of the twentieth century saw the reordering of American higher education into a more systematized structure in which "the college re-emerged as a strong and secure institution within the system" (Leslie, 1976). One important adaptation was the combining of breadth and specialization. However, the new norm was not established without the surrender of some of those things which had characterized these colleges for over a century (Herbst, 1965). The debates continued, even as the transformation was being effected. An early study by the Association of American Colleges found that students tended to enroll in the more traditional subjects in spite of new and expanded opportunities (Kelley, 1921). A few years later, another survey from a broader base recorded a clear difference of opinion regarding the purpose of specialization in the undergraduate curriculum: on the one hand, intensive study was seen as an extension of general studies; on the other, it was identified clearly as having "directly or indirectly a vocational purpose" (Kelly, 1925).

The Belief System of the Contemporary Liberal Arts College

In view of the evolution of the form and ideal of the liberal arts college sketched on the preceding pages, it is not surprising that the group of institutions labeled "liberal arts college" in the 1980s does not constitute

a single homogeneous type, but contains a number of subclasses. The appropriate image to display the characteristics is less a continuum and more a cluster of overlapping circles. While sharing a substantial body of belief, the colleges in this cluster also present broad variations of theme and substance. For some, the path from Athens to the New World campus in the 1980s is recognizable: for others, the family resemblance is present, but the relationship seems more like that of distant cousins than of siblings.

In the broadest sense, this cluster of institutions is marked simply by being essentially undergraduate and independent (not affiliated with a university). In the aggregate, these independent institutions constitute the "general baccalaureate" colleges described under the new classifications employed by the National Center for Education Statistics in *The Condition of Education*. The most common subdivision of this population is that first employed by the Carnegie Commission on Higher Education, in which liberal arts colleges are labeled "Liberal Arts I" and "Liberal Arts II". The "Liberal Arts I" group consists of those colleges that scored 1,030 or more on Astin's selectivity index or were included among the 200 leading baccalaureate-granting institutions in terms of the numbers of graduates receiving Ph.D.'s at 40 leading doctorate-granting institutions from 1920 to 1966 (Carnegie Council, 1976). The remaining schools are "Liberal Arts II." Within the latter group are those institutions Astin and Lee (1972) singled out and dubbed the "invisible" colleges, an appelation not altogether welcomed by the class members.

Pfnister and Finkelstein (1984) identified five subclasses of liberal arts colleges evident in the 1950s: (1) single-purpose, traditional and elite liberal arts colleges; (2) profession-oriented, predominantly liberal arts colleges, similar to the first group but placing heavier emphasis on preparing students for further study in selected professions such as law and medicine; (3) denominational, locally oriented liberal arts colleges, institutions established to serve a religious denomination, although not necessarily limiting enrollment to members of that church; (4) general purpose community-oriented colleges, the twentieth-century version of the booster-type college described by Boorstin (1965) as the prevailing type of the early nineteenth century; and (5) teachers colleges with a liberal arts emphasis, institutions formerly dedicated to preparing teachers but now serving a broader clientele and incorporating a basic core of studies in the liberal arts.

By the end of the 1970s, the five classes could be collapsed into four on the basis of 1978 Carnegie survey data. The working labels attached to the new categories were: (1) non-professional and non-vocational colleges; (2) professionally oriented traditionals; (3) multi-purpose institutions; and (4) limited multi-purpose institutions (Pfnister & Finkelstein, 1984). The last group could be further divided into two classes, differentiated by breadth of program and relative emphasis on vocational/occupational preparation.

In the final analysis no typology proves to be wholly acceptable because each subclass of institutions examined here has much in common with other subclasses in the larger class of general baccalaureate institutions. As a consequence, there is always a certain fuzziness in the creation of such discrete subclasses. And even with the considerable variation that appears, each of these institutions ultimately identifies itself in terms of its response to *form* and *ideal* and its relation to the world of *work*. The rhetoric employed with regard to *form* and *ideal*, whatever else is mentioned, is likely to contain much of what Schmidt, (1957, pp. 241-242) refers to as the component parts of liberal education:

> A liberal education is not a thing of precise definition like an isosceles triangle, nor is it a fixed list of courses in a college catalogue taken over a given period of years. It is rather a human quality and a personal achievement, which can be attained in a variety of ways. . .
>
> Nevertheless, the hundreds who have written about it and the hundreds of thousands who have experienced it are convinced there is *something* there, and that something is priceless. Its component parts, if anything so vague can have component parts, might be described as follows. A liberal education means knowledge, verified and dependable, about the world of nature and its processes, and about human society both in its historic origins and its ever-changing contemporary forms. It means trained skills and abilities: to use one's own language effectively and one or more foreign languages adequately; to think critically—itself a cosmos of more specific skills to judge intelligently among alternatives; to participate helpfully in social situations. It means appreciation of people, of the moral and spiritual quality of actions; of human imagination whether displayed in painting or music, in poetry or drama, or in mathematics, astronomy, or physics. A liberal education is something like that.

A century and a half earlier, the Yale Corporation had referred to knowledge as "furniture" and asked that each student "should be instructed in those branches of knowledge, of which no one destined to the higher walks of life ought to be ignorant." The specific subjects then noted have a familiar ring, though with the passage of time our categories for describing fields of knowledge have changed. The corporation also asked that certain skills be developed—reasoning, command of one's own language, imagination, and others, constituting the "discipline of the mind." In the present-day college we would not want to be limited in library resources nor committed to heavily to the *in loco parentis* mentality of an institution serving mostly thirteen, fourteen and fifteen-year-olds; and, there are other aspects of the Yale of 1828 that just do not fit 1984. Yet, the rhetoric of the Yale report and of Schmidt are not that different.

As for liberal education and the world of *work*, as Thomas Green (1975) states, the "relation between undergraduate liberal learning and the world of work is a perennial topic." It is a perennial topic, he contends, because:

> The minimal condition of any good education system—and perhaps for the survival of any educational system—is that it facilitate some access to adult economic roles or that it provide a way of gaining economic independence. Thus, the problem of the relation between education and work is always present, and any kind of education that eschews a primary concern with this basic problem needs to give it special attention. Such is always the case with liberal studies in the undergraduate college.

Green makes the case for the American perspective— that is, that education must be related to one's economic well-being, and that liberal education especially faces a challenge in reconciling its historic separation from the world of work with present student desire to incorporate preparation for work into the educational experience. Here again is the persistent triad of *form*, *ideal*, and relation to *work* that constitutes the elements on which subclasses of liberal arts colleges build in the contemporary world.

In summary, the major points in the belief system informing these colleges in the aggregate are:

1. A liberally educated person is both knowledgeable and skillful (in Yale's language, one has the appropriate furniture and discipline of the mind). By virtue of possessing basic knowledge and skill, one has before himself/herself the maximum range of options for the next stage of education, or for entering the world of work. By avoiding specialization, one who has a liberal education can keep options open.
2. Although secondary schools have an important part in general acculturation of youth and in the inculcation of basic knowledge and skills, the process of acculturation cannot be completed in the secondary school years. Therefore, colleges have a continuing responsibility for completing the liberal education of those who elect further study. (There is a residual elitism in this view, because entrance into college, is outside the common schooling.)
3. The liberal education goals of those selected for (or electing) continued education can best be met in institutions that have as their major emphasis non-specialized, non-vocational education. Moreover, whatever variations in sequencing and length of time are required or employed, the preferable form is four years of sequential experience.

Beyond these three are another collection of beliefs present in varying degrees among the colleges.

4. The role of a liberal arts college is many-faceted. One particular task is the provision of body of common knowledge and skills. Particularly after the Committee on the objectives of a General Education in a Free Society (1955) stated that "general education" was a more appropriate term in a democracy for conveying the meaning of liberal education, general education came to be the term and concept preferred by many colleges. (The shift in terms allowed a subtle change in orientation, for now it was possible for the liberal arts college to think of itself in more general terms and as being involved in broader educational activities—as long as some component of general education was present.)
5. The liberal arts college proper is a combination of general education and specialized education. Specialized education is an extension of the general experience of the student in the undergraduate college. (But a segment of liberal arts colleges will say that specialized study is separate from general education, that it is study calling for a high level of specialization to prepare persons for first entry into the job market.)
6. To emphasize that liberal education is the education of the free citizen in twentieth-century America may be less relevant for the times than to emphasize that the kind of education needed is one that allows the

individual to realize more fully his or her potential. The task of higher education in contemporary America, then, is not so much to create a new body of commonly accepted knowledge but to create opportunities for exploring new possibilities and new goals. Liberal education is education for freedom; it is liberating (Gamson, 1984) education.

7. Education must be concerned with the whole person, with feelings, attitudes, and values as well as skills and intellectual ability. The unique contribution of the liberal arts colleges is (or can be) to enhance one's sense of his or her culture and its values.

There are other elements in the belief structure of the contemporary liberal arts college that parallel the general higher education belief structure, but the points above are those most frequently noted in discussion of what the liberal arts college is, or ought to be.

The Resource Base of the Contemporary Liberal Arts College

Bowen (1980) reminds us that colleges possess both tangible and intangible assets. The tangible assets consist of land, buildings, investments, and current funds. The intangible assets include: the ability to recruit and retain qualified faculty and staff; the capacity to recruit and retain qualified students; ties to sources of appropriations, grants, and gifts; the ongoing internal organization including the division of labor, definition of roles, communication systems, rules, customs, traditions, and morale. These intangible assets together make up the "moral capital" that provides an institution with the ability to weather crises and maintain educational principles and basic mission. Of the two categories, Bowen contends the intangible are the most important, for even with the loss of tangible assets an institution can recover its position through prudent use of the intangible assets.

In assessing the resource base of the liberal arts colleges as a group in the last quarter of the twentieth century, it is difficult to identify intangible assets, because these are matters of institutional personality, history, and reputation. Tangible assets are also difficult to itemize with any precision without intensive study of individual cases. For an assessment of intangible assets, reference will be made to three recent but limited studies of institutional adaptation and recovery (Chaffee, 1984; Peck, 1983, Pfnister & Finkelstein, 1984). For insight into the condition of the physical assets, much of the data will be drawn from four sources (Leslie, Grant & Brown, 1981; Levine, 1978; Minter & Bowen, 1978; NACUBO,1981). The data bases differ among the studies, and the populations vary; yet, from the various sources it is possible to form a reasonably accurate picture of the contemporary liberal arts college.

The National Association of College and University Business Officers and the American Council of Education, under a contract with the U.S. Department of Education, analyzed data for 1975 - 1978 from the Higher Education General Information Surveys on Finance, Faculty, and Institutional Characteristics and the American Council on Education longitudinal enrollment files. Using the institutional classification codes developed by the National Center for Higher Education Management Systems, the ACE-NACUBO team developed a comprehensive picture of American higher educational institutions and their financial status, and examined the usefulness of various indicators of fiscal health. Based on data from 831 private four-year institutions, roughly the group identified in Carnegie studies as Liberal Arts I and II institutions, ACE-NACUBO provides the following profile:

	1975	1978	Change
Average FTE Students/Institution	1257	1360	+ 8%
Average FTE Faculty/Institution	70	66	− 6%
Part-Time to Total Enrollment	19.5	21.2	+ 9%
FTE Students to FT Faculty	19.8	20.9	+ 6%

The average size of the institutions increased from 1,257 to 1,360. The FTE faculty decreased over the four years, and the average institution had fewer FTE faculty in 1978. Proportions of part-time students increased, along with faculty-student ratios. From other analyses of the ACE-NACUBO team, 914 private four-year colleges (comprising 36% of the total sample of all types of colleges) employed 73,000 FTE faculty in 1974, or 21% of the faculty employed by all institutions of higher education in the sample. The colleges

enrolled, on average, 1972 continuing education students in 1974, and increased the number of continuing education students by 1976.

Working from a narrower base of just over 700 Liberal Arts I and II colleges, Levine (1978) presents a slightly different profile:

	L.A. I Colleges	L.A. II Colleges
Median number of undergraduates	750-1000	750-1000
Average number FTE Faculty	76	64
Percentage faculty with Ph.D	57	38
Percentage faculty with no professional publication in previous two years	53	69
Percentage faculty reporting more interest in teaching than research	82	91
Median size of department	6-8	4-5

Leslie and others (1981) undertook a detailed study of enrollment patterns for Liberal Arts Colleges I and II over the period 1965-1977. Total enrollment for both classes of colleges increased over the 13 years studied, the LA II colleges increasing at a somewhat greater rate. Further analysis showed that on the basis of FTE enrollment, the two classes of institutions were fairly similar in the growth rate; the differences between them lay in the increasing number of part-time students in the LA II institutions and the relatively stable enrollment with limited part-time students in the LA I institutions.

Despite the differences in the compilations, the essential characteristics seem clear enough. Liberal arts colleges are small, enrolling usually less than 1,500 students. The faculty number less than 100, and departments consist of 4-7 people. Part-time enrollment is increasing, but these colleges are still predominantly peopled by full-time students. The faculty are more interested in teaching than in research and they publish infrequently. A substantial number of the faculty are teaching with less than a doctoral degree, although the proportion of the doctorates may have increased during the 1980s. There has been some reduction in the number of faculty at these institutions. How do these institutions appear in terms of fiscal transactions, income, and expenditure? The ACE-NACUBO report provides the following profile:

	Percentage of Income, 1975	Percentage of Income, 1978
From Tuition and Fees	50.5	51.2
Gifts	11.9	11.1
Endowment Earnings	3.6	3.2
Appropriations	1.5	1.3
Government contracts	6.1	7.1

These sources constitute an incomplete listing, accounting for only slightly over 73% of total income. The remainder is to be found in auxiliary income, with usually ranges around 22 or 23%, and the catch-all category, "other." What this table does indicate, however, is the tendency to become more tuition and government grant dependent, at a time when both are shaky sources of income. The Minter-Bowen (1978) report shows a very similar distribution.

In terms of expenditures, the profile is as follows:

	Percentage of Expenditure, 1975	Percentage of Expenditure, 1978
Instruction	30.8	29.2
Research	0.9	0.8
Library	3.3	3.2
Student Services	6.6	7.2
Institutional Support	15.3	15.6
Operations and Maintenance	9.3	10.0
Unrestricted scholarships	4.5	4.4

Again, the table accounts for only 70% of expenditures. With the addition of physical plant expenditures, usually 8 or 9%, and expenditures for auxiliary enterprises, the total is complete.

What does the future hold? The smaller liberal arts colleges face the most serious dangers (Dickmeyer, 1983). Those with enrollments of less than 1,000 and little or no financial reserves are the most vulnerable (Carnegie Council, 1980). For most institutions the future will be difficult, and constant monitoring of fiscal condition will be required.

In the final analysis, however, survival will depend on those intangible assets to which Bowen refers. Keller (1983), in a series of case studies, shows how even well-to-do institutions can find themselves in deep fiscal trouble, and how the combination of leadership, reputation, and "moral capital" makes the difference in recovery. Peck (1984) refers to entrepreneurial and people-oriented leadership that brought a number of liberal arts colleges from near fiscal disaster to relative fiscal health. Chaffee (1984) examines the strategic management responses of two comparable groups of liberal arts colleges facing fiscal decline in the mid-1970s. By 1980 one group had recovered and the other had not. The key to recovering appeared to be the kind of strategic management implemented with a combination of interpretive effort and responsiveness to people being the most effective approach. Pfnister and Finkelstein (1984) found that, as critical as the pattern of management and planning was, the basic array of environmental and internal attributes summed up in the term "sociological set" provided the best explanation for successful adaptation.

Major Environmental Forces

Liberal arts colleges are subject to the same environmental forces that affect all of higher education, but some forces may have greater impact on this group of colleges. The decline in the number of students in the 18-24 age group will leave few American higher institutions untouched, but liberal arts colleges oriented toward residential students may feel the impact to a greater degree. Shifting patterns of funding will cause reassessment of financial strategy at all institutions, but tuition-dependent small liberal arts colleges may face more critical problems.

Yet the liberal arts colleges constitute clusters, not a single type, and even among these colleges the impact of environmental forces will be different. Colleges with waiting lists are not going to have the same problems as institutions which cannot adopt a final budget until after the fall enrollment is determined. Endowment and reserves vary immensely among the colleges. In a special sample of 17 institutions, Pfnister and Finkelstein (1984) found endowment capital varying from less than $400 per student to over $10,000 per student. Peat, Marwick, Mitchell and Minter (1980), in a ratio analysis report, display data for a sample of 359 private four-year institutions showing annual operating budgets ranging from less than $2 million to over $64 million.

Recognizing the variations in impact, is it still possible to say anything about the general response of this group of institutions as a whole? The final report of the Carnegie Council (1980) identifies 10 contemporary trends which in summary form are listed below:

1. The rise of the public sector; in 1950 public and private institutions enrolled almost equal shares of the total college population, but by the end of 1970s private institutions enrolled 20% and public enrolled 80% of the total.
2. A transition from a free sector to a regulated industry; federal and state regulations and regulating bodies increasingly set the directions for the activity of higher institutions, having an impact upon both public and private institutions.
3. Changing sources of financial support; since the 1930s the trend had been toward more dependence on public sources, and although there is some effort now to increase private sector giving, support for higher education will be channeled tax monies rather than private gifts.
4. An increasingly important role for large institutions; institutions of more than 10,000 students enrolled one-half of all students in American colleges and universities in 1977, and largeness rather than smallness has become the virtue.
5. Changing public confidence; skepticism over the worth of higher education has grown through the 1970s, and the public seems to hold ambivalent views about the worth of further education: wanting more education but suspecting that the additional training may not pay off in the long run.
6. Changing rates of growth; after 20 years of acceleration colleges now live with the prospect of decreases in size, or, at best, a steady state.
7. An aging faculty dominates the staffing of institutions; expansion of staff to meet the enrollment increases of the past leave institutions with a surplus, new positions are rare, and the young faculty of the 1960s are becoming the aging faculty of the 1980s and 1990s.

8. College strategies have changed from offense to defense; a feeling of harassment pervades academe, and the general reaction is to dig in, consolidate, and prepare for the worst.
9. The composition of the student body is changing in age and outlook; students are less politically active, less respectful of rules and regulations, less hopeful, more oriented to large institutions and to immediate preparation for employment.
10. The market rules supreme, and the road to survival leads through the marketplace; institutions are marketing industries, and students are consumers.

The trends that are likely to have the greatest impact on liberal arts colleges are the growth of the public sector (1) and increasing role of large institutions (4), the character of the new students (9), and the supremacy of the marketplace (10). In addition, a much longer term trend, the diversification of the educated society, will have a special meaning for the liberal arts college.

The domination by the public sector and the influence of the large institutions have a particular bearing upon the liberal arts colleges. Already noted is the fact that most liberal arts colleges fall into the 750 to 1,200 enrollment category. Whereas "bigness" was once a vice and "smallness" a virtue, the contemporary student sees in the large institution the variety of possibilities that has come to be attractive, especially since college education is more and more related to job-entry training. The smaller liberal arts college campus will continue to attract a segment of the student population, but the attractiveness of halls of ivy is considerably less in the later years of the twentieth century than it was in the early decades.

Changes in American society in the latter half of the twentieth century will also have an impact upon the way in which liberal arts colleges are viewed and supported. The liberal arts in the Greek city states, the *encyclios paideia*, implied a common culture, a homogeneity in values and outlook. In its own way, the far flung culture of the Romans also had a central focus. Americans of the latter part of the twentieth century have no such focus; the prevailing mood is of individualism, differentiation, and appreciation of the cultural pluralism that makes up the nation. America is the kaleidoscope that Alistair Cooke (1979) describes in *The Americans*, and the sole purpose of education is to promote *individual* growth, even if one is hard put to say much about *what* kind of growth is desired. Boorstin (1974) argues that the characteristic American college has become "less a place of instruction than a place of worship—worship of the growing individual." And, if subject matters are vague, options numerous, boundaries between "extracurriculum" and "curriculum" undrawn, this is to be expected, because "growth" is hard to define.

From a perspective outside American culture, Ben-David (1972) sketches the dilemma. He states that the kind of education the American colleges were intended to perpetuate assumes that "such education created a superior person. His superiority was aesthetic. . . it was also moral. . . Finally, it was an intellectual superiority, since the cultivated mind was capable of the critical reflection and intellectual autonomy of which others were not capable." It is questionable whether the principles of liberal education can ever be effective in the modern world, Ben-David suggests, but if they are, they will be limited to the few and will be found in few colleges. But, herein lies the American dilemma, for college education in the United States was not meant for a selected few, and in recent years has clearly become a system for the mass.

The more the liberal arts college adapts to the new pressures, the more it becomes similar to other institutions. By incorporating the demands of the marketplace it fades into the background of larger and more differentiated institutions that can do the job of mass education much more efficiently. The supreme challenge thus becomes that of achieving some kind of balance which retains what is valued in the original conception of the "arts" while meeting student demands.

It is not surprising that a large segment of the colleges classified as liberal arts colleges in 1970 were reclassified as comprehensive institutions in 1976, or that the Carnegie Council found it difficult to differentiate between the Liberal Arts II colleges and the comprehensive institutions (Carnegie Council, 1976).

Undergraduate Baccalaureate Education

Given the historical antecedents, the contemporary liberal arts college comes by its bewildering variety of curricular patterns honestly. The story of the liberal arts college curriculum has been one of continuous evolution, the Carnegie Council (1976) observes; the movement has been toward increasing diversity, and in the process, "the new coexists. . . with the old, for there has been little pruning and much grafting." As a result, writes Levine (1978) there is "no such thing as *the* undergraduate curriculum in America." Each institution has a curriculum that is in some way unique.

It is in the face of threats that colleges have most vigorously asserted and or reasserted their debt to older curricular ideals. Eliot's free elective system is credited with the breakdown in the unity of the curriculum at the turn of the century (McGrath, 1966), but in his inaugural address Eliot claimed that the whole curriculum would provide a liberal education; it was only that he did not want the pattern prescribed (Thomas, 1962). Eliot's stance brought the debate to the fore again. Under Lowell, his successor, the college of Harvard University returned to a more structured form, but never to what it had been before Eliot.

The emergence of the modern American university rallied the liberal arts colleges again in the early years of the century and brought forth the Association of American Colleges, but by the 1920s the liberal arts colleges had accepted a combination of basic education and specialized education, even while debating the role of specialized education within that context. Thomas (1962) views the decade of 1920-1930, when the change gained acceptance, as "one of the most important in the history of higher education in America," because it established the form that has dominated the liberal arts college since. The liberal arts college entered the second half of the twentieth century with a conventionalized commitment to breadth and depth, but with much debate over the "proper" proportion of each. The curriculum continued to expand, and so did the number of degrees, until by the 1970s there were 650 different bachelor's degree programs for which "common abbreviations" were listed by the American Council on Education (Carnegie Foundation, 1978).

Whatever one's judgment regarding the quality or effectiveness of those elements of the curriculum labeled "general education," it is still accurate to use the tripartite division (general education, the major, and electives) to describe the variations in pattern in the contemporary liberal arts college. Based on studies of developments between 1957-1967 within a sample of 322 colleges and universities granting the baccalaureate degree, Dressel (1969) found great variation in patterns, with median requirement for basic and general education for the B.A. degree at 39%, the median for the major or concentration at 31%, and the median for electives at 29%. For the B.S. degree the median for general education was a bit lower, 30%.

The study undertaken by Blackburn, Armstrong, Conrad, Didham, and McKune (1976) was based on 271 institutions, of which 55 were liberal arts colleges. For the liberal arts sub-sample data, compiled from 1966-1967, the proportions of the total requirements for the baccalaureate distributed between the three segments were: 43 to 45% in general education; from 23-33 to 26-36% in major requirements; and from 24-34 to 29-39% in electives. (The first percentage is for private Liberal Arts I colleges, and the second for private Liberal Arts II institutions.) By 1973-1974, the proportions had shifted: 23 to 31% was in general education; from 21-34% to 25-35% was in major requirements; and from 45-56% to 44-54% was in electives. The movement was clearly to reduce the general education requirement and increase the electives, particularly in the Liberal Arts I colleges. The major or concentration remained relatively stable.

Missions of the College Curriculum (Carnegie Foundation, 1978) reflects the same decline in requirements in general education, but also documents the considerable difference between Liberal Arts I an II institutions in curriculum and student outlook. A high proportion (71%) of the students in Liberal Arts I institutions consider themselves intellectuals, while 66% so classed themselves in Liberal Arts II institutions. Only 19% of the Liberal Arts I students would leave college for a job, while 31% of the Liberal Arts II students would so choose. On the other hand, 70% of the Liberal Arts II students said that it was essential to get a detailed grasp of a special field while in college, compared to 53% of Liberal Arts I students.

Pfnister and Finkelstein (1984) reported that all of the colleges included in their site-visits had reviewed their general education requirements at least once during the decade of the 1970s; several had been engaged in an almost continuous review during the time and had shifted from prescribed sequences to a virtually open curriculum and back to a more structured form. In general, the more traditional liberal arts institutions (predominantly Liberal Arts I institutions) tended to decrease requirements on the supposition that the entire curriculum already emphasized the liberal arts. The institutions that had moved toward or embraced the more comprehensive structure tended to build in more specific requirements in general education.

How do we generalize for such a disparate group of institutions? We can say that the curriculum in liberal arts colleges at the beginning of the 1980s is almost evenly distributed among general education, the major, and electives, but there is great variation within this pattern. The more selective and traditional colleges tend to decrease requirements in general education and increase options with electives, while the less selective institutions tend to maintain the even division. The debates continue over proportions of the curriculum to be devoted to each aspect of the undergraduate experience, and the particular composition of courses within the general education component varies greatly.

The vagueness and almost continuous flux in the curriculum among most liberal arts colleges may be distressing to those who would like to see more order and structure, but in summarizing the mission of undergraduate education, the Carnegie Foundation (1978, p.150) states, "the curricula of modern colleges and universities can no longer be governed by the unified cultural objectives of colonial times. Instead, our heterogenous society and extraordinary increase in knowledge pose genuine dilemmas. Today, in a pluralistic society, our degree requirements are stated in terms of specific courses or areas of study and are seldom accompanied by a rationale for the selection of courses offered."

Moreover, within the liberal arts colleges, as well as within higher education generally, the curriculum as a whole has become oriented toward the student as a consumer and toward his/her concern for occupational training (Carnegie Foundation, 1978; Riesman, 1981). In the contemporary world it appears clear that most college students and their families view colleges primarily as an avenue to financial security and status.

Matters of Vulnerability

Until the second half of the twentieth century liberal arts colleges were the model for all of higher education in relation to the oldest and, until the 1950s, the most numerous of higher institutional forms. These institutions now attract a decreasing portion of the total college enrollment and the number of liberal arts institutions appears to be decreasing (Carnegie Council, 1976). Wallis (1965) voices a popular sentiment when he contends that colleges "that confine their efforts to undergraduates will find themselves relegated, by the end of this century, to the position occupied today by the good preparatory schools. In fact they will not be in a good position."

Liberal Arts colleges have frequently confounded the forecasters and may do so again. However, that they have survived provides no guarantee that in the face of a new kind of challenge the usefulness and vigor of this distinctly American institution will continue undiminished (Bell, 1966).

Three Thousand Futures (Carnegie Council, 1980) concludes that the selective liberal arts colleges have a high probability of surviving, but that the less selective are among the most vulnerable of all post-secondary institutions. It is probable that the selectivity factor is less responsible for the strength of the one segment over the other than the fact that some institutions have developed the kind of attractiveness that allows them to be selective. If an institution has established a niche in its own geographical region, or in the national higher education community, then it is strengthened and reinforced with intangible resources and "moral capital," which in turn, make it more attractive and capable of surviving. Building that moral capital, however, is difficult when one is on the brink of financial disaster. The institutions that need the slack to build strength are the institutions that do not have the resources to allow slack.

Have most liberal arts college, like the dinosaur, now come to the end of their useful service, with the 123 Liberal Arts College I institutions the only remaining examples of the free-standing liberal arts college? The dinosaur was longlived, and adapted well through a long period of earth's history. A certain segment of the liberal arts colleges appears to have the strength to continue into the twenty-first century. Or, is the appropriate image the phoenix, the mythical bird that springs forth from the flames into new life? Other liberal arts colleges are adapting to the new conditions of American society by taking on new forms while maintaining or reaffirming identification with the liberal arts ideal. These are institutions that probably constitute a new class, standing between the purely comprehensive and the purely and more traditional liberal arts. Perhaps the image is not dinosaur *or* phoenix, but dinosaur and phoenix.

Even with substantial numbers of survivors, the free-standing liberal arts college as known in the past will not return to a dominant position in American higher education. But the persistence of a significant number of these institutions could continue to remind academe of the heritage of the liberal arts and could continue to have an influence on excellence in higher education quite out of proportion to their size and number.

Notes

1. In his chapter on the classical tradition, George P. Schmidt (1957) makes the statement, "The path from the Athens of Aristotle to the new world Cambridge of Dunster and the Williamsburg of Blair is devious but recognizable" (p.43). He continues, "The Aristotelian body of knowledge and method of thinking was modified by Roman and Moslem additions, then almost lost to the Western world in the centuries of barbarism that followed the disintegration of Roman civilization. It reappeared, diluted and fragmented in the lectures of the masters of arts who were combining in the thirteenth century to establish the University of Paris." Schmidt provides more than most writers regarding the development of the ideal of the liberal arts as applied to Western Europe and later the United States, but it is my conviction that many assumptions about the Western heritage of the liberal arts as a direct legacy from Greece leads to a misunderstanding of what the American liberal arts college were about well into the nineteenth century and misunderstanding of some of the tensions affecting them in the twentieth century.

2. It is mistakenly assumed that the university grew out of the colleges during the medieval university building period. The opposite is the case; the *form* of the college arose in response to the needs of the university. The tradition of the liberal arts in the West, of course, preceded the development of both university and college, but work in the arts was required for admission to the universities. Initially the universities made little or no direct provision for young scholars to gain the requisite preparation; the students were on their own. Only later did the colleges become responsible for liberal arts instruction. Cobban (1975) contends that the college of medieval universities do not always receive the emphasis they deserve; they "were destined to occupy a commanding position in the universities of northern Europe, (and) they merit more sympathetic treatment" (p. 122).

3. For a more thorough treatment of the development see Pfnister (1980), a monograph that traces the development of the idea of the college from the College des Dix Huit to the English colleges at the time of the Elizabethan statutes of 1570 and through the subsequent modifications of the form in England and the United States.

4. Quotations from the Yale Report of 1828 are from Hofstadter and Smith (1961) volume 1, pages 275-291.

5. In addition, it should be observed that the four-year structure was the standard form of the college. There was a brief flurry of interest in turning the liberal arts curriculum into a three-year, or less, segment. The journals carry a number of proposals for such a development in the late 1800s and early 1900s. Charles W. Eliot of Harvard was an outspoken advocate of the plan.

6. With the cooperation of Verne Stadtman of the Carnegie Foundation for the Advancement of Teaching, the researchers were able to obtain the data tapes of the *1978 Carnegie Survey of Institutional Adaptations to the 1970s* for a convenient sample of 84 colleges classified as Liberal Arts I or II in 1970 by the Carnegie Commission. In this sample were 37 institutions that had remained in liberal arts category and 47 that had been reclassified by 1976. The identity of individual colleges was confidential. and only a code number appeared on the individual data.

7. Leslie's (1981) summaries of enrollments for the liberal arts colleges show that LA I institutions added few new programs, while LA II expanded rapidly in many directions. The market approach was reflected more clearly in LA II than in LA I institutions. One may ask, as did Leslie, whether this expansion of program, which secured enrollment gains, might not also have changed the nature of the colleges. Certainly, the Carnegie reclassifications in 1976 suggested that the expanded program colleges looked to be different institutions — more akin to "comprehensive colleges and universities."

8. In 1982, the Association of American Colleges launched a three-year project to attempt to "revive a consensus among the faculty, deans, presidents, and trustees on the meaning and purpose of baccalaureate degrees," according to Mark H. Curtis, president of the association. In 1982, Theodore Lockwood wrote on the first essays regarding the development of the consensus ("What should the Baccalaureate Mean?" *Change, 14* pp. 39ff.). It was obvious by that time than no consensus was forthcoming; instead, there would be several essays to describe categories of prevailing points of view.

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Research Universities: Their Role in Undergraduate Education

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The research universities form the best known portion of the American system of higher education, and yet as a group they are probably the least studied. When they are discussed, it is usually in connection with research policy rather than undergraduate education. They nevertheless occupy a strategically vital position in this area, if for no other reason than because they possess the most coveted places for college study and because they educate the country's most gifted students. Clearly their role in undergraduate education deserves attention.

The research universities are the most compartmentalized of institutions in American higher education. The undergraduate colleges of these institutions sometimes contain less than half of their enrollments, and in most cases would account for a minor portion of the budgets. Many of them operate massive, virtually autonomous hospital-medical school complexes, usually on separate campuses; the land grant research universities do extensive agricultural development work at various locations; many large university research laboratories are almost wholly supported by federal funds and quite remote from any university teaching; and almost all research universities contain various professional schools, each with its distinctive orientation. Still, in the true research university, the spirit of disinterested inquiry penetrates into the academic departments and is an active presence in the life of the institution.

The research universities are known above all else for research, naturally, and for graduate education. Behind these activities however, lie three elements that account for their character and their unity. First, they have deep and inescapable commitments to academic values (see below). This is no mere truism. As compartmentalized institutions, the research universities must harmonize commitments to many value sets, not all of which are easily compatible with the norms of academic inquiry. Nevertheless, the predominance of academic values in matters concerning faculty, graduate education, curricula, and, of course, research, is the hallmark of a research university.

Second, these institutions possess faculties that are distinguished in the eyes of their peers. Every research university obviously cannot excel in every department, but peer-rated esteem is a paramount consideration in decisions concerning the hiring, promotion, and compensation of faculty.

Third, sustaining a high volume of academic research requires a considerable resource base and resource flow. The research universities are among the wealthiest institutions of higher education—and they need to be. The annual income for research that is largely derived from external sources has to be backed up by high overhead expenditures for a distinguished faculty and a large base of research capital embedded in libraries, laboratories, and other facilities.

The Carnegie classification of American colleges and universities designates as Research I Universities the 50 institutions that receive the largest amounts of federal research funds and train the greatest number of future researchers. Using the same criteria, the next 50 institutions are dubbed Research II Universities. The National Center for Higher Education Management Systems (NCHEMS), using somewhat more restrictive criteria, counts 73 major doctoral/research universities. In either case, it should be evident that with so large a number of universities, not all will possess the three elements previously described. For our purposes, these so-called research universities might be separated into three groups—one well defined and the other two somewhat subjective.

At the peak of the research university hierarchy, there are 20 institutions which fulfill the three criteria (Geiger, in press-b). Since both total volume of research and commitment to faculty quality are important for defining research universities, the rank order lists of universities for both these criteria have been combined

here. Listed below are the 16 institutions that had the largest expenditures for research and development during FY 1980 (National Science Foundation, 1981); and the 17 institutions that were rated to have the highest overall faculty quality in the recent *Assessment of Research-Doctorate Programs in the United States (1982)* (Webster, 1983):

Rank	R&D Expenditures	Faculty Quality
1.	M.I.T.	UC Berkeley
2.	Wisconsin	Stanford
3.	UC San Diego	Harvard
4.	Minnesota	Yale
5.	Stanford	M.I.T.
6.	Washington	Princeton
7.	Michigan	Chicago
8.	Cornell	Michigan
9.	Columbia	Wisconsin
10.	Harvard	UCLA
11.	Penn	Columbia
12.	UC Berkeley	Cornell
13.	UCLA	Illinois
14.	Illinois	Penn
15.	Johns Hopkins	Caltech
16.	Texas	Minnesota
17.	———	Texas

(See Appendix: tables 1 & 2)

It would be difficult to argue that any of these institutions do not belong in the top 20, although a reasonable case could be made that several others are equally deserving of the last two or three spots. Nevertheless, this list is practical and sufficient for the purpose at hand, and will consequently be used for the rest of this paper as the point of reference for the discussion of research universities (data concerning these institutions are provided in the appendices). These universities, moreover, generally act as spokesmen for research universities (Ford Foundation, 1978), and are diverse enough to represent the gamut of possibilities for this species.

A second tier of research universities that are generally smaller, less prestigious in terms of national rankings and less involved with high-dollar research can also be identified. This tier would include well-endowed, private universities like Brown, Carnegie-Mellon, Case-Western Reserve, the Claremont group, Duke, Emory, Rice, Rochester, Northwestern, Vanderbilt, and Washington University as well as such state universities as North Carolina, Virginia, and Indiana. These institutions largely share the academic values of the first group, and often have impressive levels of resources relative to their more selective commitments. Their smaller departments and graduate programs, however, do not receive sufficient recognition to place near the top in national quality rankings. These institutions might be designated as regional research universities: they are highly regarded in their respective regions and thus play an important role in research and graduate education.

A third group of research universities (but not necessarily a third or lower tier) consists of those flagship state universities, land-grant universities and large private universities that undertake substantial amounts of research, but also have major obligations for undergraduate teaching. Their intake of students tends to be less selective than that of the first two groups, and pre-professional degree programs often have larger enrollments than academic ones. Usually a considerable proportion of their research expenditures is sequestered in a medical school or devoted to agricultural stations. Academic values are generally honored in these universities, and sometimes prominently so; but they tend to be diluted by other important institutional imperatives. These multiple purposes can produce some noticeable incongruities. Texas A&M, for example, has a large and growing research and development budget and a desire to make a mark in Big Science physics research, but at the same time clings proudly to non-intellectual attitudes and patterns of behavior known as the Aggie spirit. On the whole, these institutions tend to rank more highly on measures of research volume than they do on those of faculty quality. The values and attitudes that inform research have comparatively less impact on undergraduate education.

Unity and Diversity

Research and graduate education are the tasks that unite the research universities as a group. Indeed, these have been the principal interests of the Association of American Universities, which has represented the research universities since the beginning of this century (Geiger, in press-a). Their teaching roles, and particularly their undergraduate teaching roles, on the other hand, are the most obvious characteristics by which they differ. The 20 schools considered here, in fact, include both the largest single-campus university in the country (Minnesota) and the most selective one (Caltech). This dichotomy between research and undergraduate teaching corresponds with the distinction that Burton Clark has made between the culture of the discipline and the culture of the enterprise (Clark, 1983). Together, the two cultures account for both unity and diversity among research universities.

The competition for academic prestige is an inherent feature of the university research role. It is rooted in the processes by which scientific recognition is continuously allotted and evaluated. It is thus only natural that this preoccupation gives rise to periodic formal rankings, even though such endeavors are inherently imperfect and controversial. The rank of any university in the academic pecking order is really an abstraction; it is a somewhat artificial aggregation of the prestige of individual departments, which are in turn aggregations of the prestige of individual scholars. Nevertheless, the existence of a hierarchy is a reality that affects the behavior of individuals and institutions. The recent *Assessment of Research Doctoral Programs* is as thorough and judicious an exploration of this hierarchy as has yet been undertaken (Webster, 1983). Its findings, then, have the virtue of presenting in detail what everyone knows, or thinks they know, anyway (Table 2).

In the ranking given in Table 2, three strata are discernible among the 20 universities. At the top, 7 institutions (Berkeley, Stanford, Harvard, Yale, M.I.T., Princeton and Chicago) are distinguished by not only an abundance of very strong departments, but also by the presence of numerous excellent departments (those scoring 70 or more, two standard deviations above the mean). Caltech, as a small and specialized institution, clearly belongs in this group as well by virtue of having six departments of this caliber. The next 7 institutions constitute a second stratum /(UCLA, Michigan, Wisconsin, Columbia, Cornell, Illinois, Penn). They too have a number of strong departments, but not very many rated as excellent. Below this level the areas of academic strength become more spotty. The interesting question then becomes, how do these three levels of academic quality match up with other institutional characteristics? (See Geiger, in press-b).

Seven of the eight schools in the top stratum are private. Their most salient common characteristic is the limited size of their undergraduate colleges (Table 6). Harvard is the largest of these universities with more than 15,000 students, yet only about a third of them are undergraduates. As a result of deliberately restricting their undergraduate enrollment, they are now among the most selective of universities. Median combined SAT scores for entering freshmen in 1979-1980 exceeded 1,300 at five of the seven private institutions (Table 4). Berkeley, although an exceptional case in many regards, also fits this model by having the highest freshman SATs among public universities. Clearly, the distinguished faculty of these elite schools find teaching high-ability, well-motivated undergraduates to be a congenial accompaniment to graduate instruction and research.

The universities of the second stratum are remarkably alike. All are fairly large institutions containing numerous compartments or units. The four state universities here naturally have obligations to provide a variety of services. Service roles are present in the three private universities as well: Columbia and Penn have a special relationship to their respective metropolitan areas, which have traditionally been their sources of voluntary support; Cornell contains units of the State University of New York. The many fine academic departments found at these schools do not have the campus to themselves. The research atmosphere is consequently less rarified at these multi-purpose institutions.

Below the second stratum the effects of size tend to diverge in accordance with the differences already noted between small regional research universities and large multi-versities. The former tend to emulate the top stratum of universities to the extent that their resources permit. The latter are rather unselective in admitting undergraduates, demand heavier teaching loads, and conduct much research outside the basic academic departments. A comparison of these state universities with the others in the higher strata would seem to suggest an inverse relationship between inclusiveness and academic prestige.

Values

It is relatively simple to specify the value system of the research universities, for it is identical to the values of the academic disciplines. In fact, the national or international disciplinary communities and the research universities are heavily dependent on one another. Through their formal and informal processes of evaluation, the disciplines ensure that contributions to the advancement of knowledge are validated, and that recognition and rewards are allocated to scholars and scientists.

Possessing the most valuable positions and facilities for conducting research, these universities have an obligation to make these opportunities available to the most capable investigators. In theory this would require exemplifying what Robert K. Merton called "the normative structure of science" (Merton, 1973). In practice it means awarding faculty positions in accordance with the reward system of science and the judgments of disciplinary peers.

Research universities bear an implicit responsibility for upholding the norms of science. Indeed, in this respect they provide moral leadership for American higher education as a whole. Other institutions may slight these values on occasion, but the research universities may not. Faculty loyalty, the flow of research funds, and much indispensable voluntary support depends upon their fealty to this code. The predominance of academic values, then, is no idle preference: it is an institutional imperative resulting from some distinctive features of higher education.

A good deal of authority in research universities is vested in academic departments. This is where the expertise necessary for exercising academic judgments resides, and this is where academic values are most strongly felt. In large measure research universities are obliged to defer to their departments in matters pertaining to personnel and subject matter if they wish to retain their most productive and prestigious faculty members. In this respect, the decentralized, competitive structure of American higher education has significant effects on the behavior of research universities. If an institution wishes to compete for academic distinction, it must honor the values set by the top research universities.

In addition to this competition for prestige, research universities are also driven by a more materialistic competition for research funds. Almost all the direct costs of separately budgeted research in American universities are paid by external grants, and a large proportion of these are awarded on the basis of peer review. Acquiring the basic resources for conducting research year after year, then, also demands that universities retain the loyalty of their grant-winning faculty.

Resources

Howard Bowen has formulated several "laws" to describe the economic incentives and behavior of colleges and universities:

> In quest of excellence, prestige, and influence, there is virtually no limit to the amount of money an institution could spend for seemingly fruitful educational ends. [Thus,] each institution raises all the money it can [and] spends all it raises. (Bowen, 1980, 19-20)

This maxim would apply to research universities more than others. In fact, they owe their special position to their money-raising abilities.

These 20 research universities had expenditures in 1981-82 that averaged $22,580 per FTE student. By way of contrast, the other 52 institutions that NCHEMS classifies as major doctoral/research universities had per-student expenditures averaging $8,216 (NCHEMS, n.d.). One of the distinguishing features of the leading research universities is that they receive and spend relatively large amounts of money.

If direct expenditures for research are removed from the research university per-student average, $15,692 of per-student spending still remains. By way of comparison, student tuition in the private universities varied from $6,000 to $8,000, and tuition plus state appropriations in the public universities averaged over $7,500 (1981-82). If these sums are taken to represent student-derived revenues (since state appropriations depend partly upon student numbers), it becomes clear that they accounted for only about one-half of the non-research expenditures of these research universities. Where does the remainder come from?

For private research universities these extra revenues come primarily from voluntary support, and secondarily from endowment income, which itself largely represents a return on past giving (Table 3). These revenues are the most convincing single indicator of the "wealth" of these universities. Sources of voluntary support

tend to vary for each institution (Geiger, in press-c), although "development", as it is euphemistically called, is so highly refined at all of these institutions that they receive substantial sums from every category of benefactor. Nevertheless, a high proportion of alumni giving correlates with a strong residential undergraduate college; universities in major cities have traditionally looked to local philanthropists; noted engineering schools have tended to encourage corporate contributions; and the large foundations have traditionally sought to bolster the private research universities generally (Council for Financial Aid to Education, 1983). It might also be noted that the medical complexes of these schools generate and consume enormous amounts of voluntary support money.

Public universities have substantially increased their development efforts in recent years. Among them, the research universities have met with considerable success. For 1982-83, 6 of the 20 leading fundraisers were public universities (Minnesota, Michigan, Illinois, Texas A&M, UCLA, and Wisconsin) not including the $100+ million efforts of the California and Texas university systems (*Chronicle of Higher Education*, May 9, 1984).

It is important to link the dynamics of voluntary support with the role of the federal government—the other principal resource base for university research. The federal role in supplying research capital was particularly prominent in the 1960s, and has declined considerably since then. The chief function of the federal government, however, has been and remains that of paying the direct costs of conducting university research (including a percentage supplement for immediate indirect costs). In the late 1960s, the percentage of university research supported by federal funds reached 75%; today it is closer to 66%. These funds naturally tend to flow to the institutions with the most competent faculties and the most complete facilities—in other words, to those with accumulated research capital. Thus, the 20 universities covered here account for about two-fifths of federally funded research and development (Geiger, in press-b).

It would be erroneous to conclude from this discussion that money is the sole resource of importance to research universities. Rather, given the values and traditions of these institutions, and their human and material capital, it is inescapable that dollars drive the system. Accordingly, financial issues are a perennial preoccupation of research universities.

The Current Environment

The research universities do not share many of the concerns of other American colleges and universities. Their enrollments will not be affected by the shrinking of college-age cohorts. In fact, most of these schools had more applicants in 1984 than ever before. Similarly, the decline in student aptitudes has had a comparatively small impact on these selective institutions.

One common concern arises from the general financial squeeze affecting undergraduate education. The private research universities set the price ceiling in American higher education each year, and are sorely troubled that annual tuition hikes tend to restrict their potential student pool on the basis of income rather that ability. Higher tuition also raises their own costs for institutional student aid. Sustaining this very costly form of education is a risky financial juggling act.

Futhermore, the top *public* research universities happen to be found in states that have recently experienced considerable economic distress. (California, despite its tax revolt, is probably an exception here, and the University of Texas research effort has been buoyed by its oil-fueled endowment). For schools like Michigan, state indigence has prompted a reorganizational triage, as some weaker areas have been sacrificed in order to preserve academic strengths. However, the University of Washington may be the research university weakened the most, having experienced a notable faculty exodus.

Voluntary support for higher education in general has been remarkably strong in recent years, despite the turbulence of the economy. From 1975 to 1982 it actually increased on a per student, inflation-adjusted basis (*Chronicle of Higher Education*, May 9, 1984). It would appear that voluntary support to research universities has kept pace with that in other categories of colleges, a creditable achievement in light of the acceleration of development efforts across American higher education. Alumni remain the single largest source of voluntary support, followed by the category of "non-alumni individuals," which includes most major philanthropists. The most salient recent trend has been an increase in corporate giving to higher education, while the relatively static assets of foundations have provided a diminishing share of the total. The buoyancy of voluntary support has been a bright spot for higher education in general, and for the research universities in particular. In the longer term, however, one wonders how much further this pie can expand.

Ongoing federal support for university research contains an inherently political element that is hard to predict. The Reagan administration began its first term by vowing to make significant cuts in this area (Wilson, 1982), but by 1984 it was boasting of a 26% real increase in federal support for university R&D during its tenure (*Science*, April 6, 1984). This has been good news for the research universities, but it has not been sufficient to raise their downcast spirits. The consensus is that university research faces formidable problems in the years ahead.

The difficulties primarily concern the ecology of the research system and the infrastructure that supports university research. On the first point, it is now abundantly clear that the circulation of academic personnel on which the research universities have long depended has virtually ground to a halt. Academic stars are still in demand; but the normal process by which graduate students become assistant professors and ascend the academic ladder can no longer be counted upon. Academic immobility is generally bad for science, and it threatens to compound the impending crisis in graduate education. Fewer top students have been choosing graduate school in recent years; the financial backing for those that do is inadequate; and job prospects for those seeking academic careers are dismal (National Commission on Student Financial Assistance, 1983). In economic terms this may appear to be an inevitable consequence of overall stagnation in the higher education industry. However, graduate education is a vital component of the total operation of research universities.

Secondly, more than a decade of consistent pressure on research university finances has taken its toll on the infrastructure that underlies the research enterprise. The research universities themselves have taken the initiative to focus greater attention on these needs through a "Report from Fifteen University Presidents" (*Research Universities and the National Interest*, 1978) and a study commissioned by the AAU (Rosenzweig, 1982). Besides the problems besetting graduate education, both documents stressed the following areas:

1. Facilities and instrumentation — university scientists are increasingly having to work with tools that have fallen well behind the state of the art. The scientific leadership of the research universities seems to be imperiled by the scarcity of capital for these purposes.
2. University research libraries, the "laboratories of the humanities," are losing ground on two fronts: they generally lack the funds to acquire books and periodicals as comprehensively as they have in the past; and capital is needed to adapt to new informational technologies.
3. International and area studies are perhaps the outstanding examples of subjects that do not pay for themselves in terms of student enrollments. Yet, these fields have considerable importance for broadening intellectual contacts within the university and cultivating valuable expertise for the nation. Consequently they have been developed and sustained largely through external funds. These sources are now limited, and universities are finding it difficult to sustain these efforts.

"Of the needs of the university there is, indeed, no end," lamented Harvard's Lawrence Lowell in 1920 (Geiger, in press-a). Currently, it would seem, the research universities are faced with difficult choices over which of their many needs they will be able to meet.

Undergraduate Education

At the nation's first research university, Johns Hopkins, physicist Henry A. Rowland was once asked what he intended to do with the students in his laboratory: "Do with them? Do with them?" he replied with some annoyance, "I shall neglect them!" (Hawkins, 1960, p. 218). In the 100 years since, the stereotype has prevailed that research university faculty tend to neglect undergraduate students in favor of pursuing their own investigations. Probably any academic could cite examples to support or contradict this view; but as a generalization about research universities, it is somewhat misleading. In the late 19th century, Johns Hopkins found that it could not dispense with undergraduate education, and research universities that have faced the issue since then have reached the same conclusion (Geiger, in press-a).

There is no difficulty identifying the significance of undergraduates for public research universities. Service to their states has conventionally been defined in terms of undergraduate enrollments. And rightfully so: undergraduates constitute the clientele that is most likely to come from and remain in the state. For those private universities that receive a dominant portion of voluntary support from alumni, undergraduates are a valued and valuable resource: the loyalties that inspire this giving lie almost exclusively with classmates and

the undergraduate college. Seven private research universities (Columbia, Cornell, Harvard, M.I.T., Princeton, Stanford and Yale) consistently receive more than $10 million per year from their alumni (Table 5). Also, unlike gifts from other sources, alumni contributions are largely unrestricted in nature. They are consequently a particularly vital source of revenue for this set of universities.

From an historical perspective, the leadership of the research universities in undergraduate education is readily apparent. A history of innovations might be written just from these institutions. It would have to mention the Yale Report of 1828 (defending the classical curriculum), Cornell's commitment to teach any man any subject, Harvard's elective system, high school certificates devised by Michigan, the first summer school at Chicago, selective admissions as implemented at Columbia, and the 1945 Harvard Report on general education. What Christopher Jencks and David Riesman called *The Academic Revolution* (1968) stands for the pervasive influence of these institutions on American higher education since World War II. Since Jencks and Riesman wrote, the research universities have pointed the way toward a liberalizing of academic requirements and the total abandonment of the university's *in loco parentis* role. Clearly, what happens to undergraduate education at research universities is important to higher education as a whole. Probably no set of institutions can speak more confidently about excellence in education than these 20 research universities. They measure quality by inputs (which can be measured to some extent) rather than outputs (which are far more difficult to gauge). By such criteria, the top research universities do well indeed, since they possess prestigious faculty, and because they attract a large share of the nation's brightest students. But how would they fare if it were possible to isolate and measure just their educational effects?

An initial attempt by Alexander Astin to measure the cognitive impact upon undergraduate students of just such quality inputs could discern no significant effects (Astin, 1968). In a later study, however, Astin found that selective institutions (which would include research universities) had generally positive effects on their students both during and after their academic careers. Students showed an increased sense of self-criticism and a strikingly high degree of satisfaction with their undergraduate experience. After graduation they were more likely to enroll in graduate school and, in the long term, achieve high earnings (Astin, 1977). In another study, Robert Pace found that the positive effects of research universities, compared with other types of institutions, increased significantly from 1950 to 1970 (Pace, 1974).

The selective institutions studied by Astin include both research universities and top liberal arts colleges; and it is very difficult to compare undergraduate education in these two types of institutions. David Riesman feels that the very top liberal arts colleges "are probably better than the undergraduate divisions of research universities," apparently because their faculties have a greater commitment to teaching (personal communication, 1984). Others would tip the balance toward the research universities by virtue of their generally superior faculties. Nevertheless, the superiority of the research universities in the hard sciences would be difficult to challenge. Probably most could agree that these two types embody somewhat different forms of excellence, and that one or the other might be more appropriate for certain kinds of students. Nevertheless, the superiority of the research universities in the hard sciences would remain unchallenged.

What research universities aspire to achieve with their undergraduates actually transcends the realm of quantification and standardized testing. The mental attributes that students would ideally absorb from a research environment—critical thinking, intellectual confidence, sophistication, and creativity—cannot be reduced very well to multiple choice answers. It would instead seem advisable to proceed subjectively, by first identifying the special features of undergraduate education at research universities, and then exploring the issues to which these qualities give rise.

The commitment to academic values, a distinguished faculty, and the resources to support research are the distinguishing characteristics of research universities, but their effects on undergraduate education are difficult to pin down. The value system seems to create an atmosphere that influences most undergraduates. This seems to be due in part to the intellectual example set by the faculty, and in part to the effects of intellectually active peers. Perhaps less evident is the fact that undergraduates at research universities are not the sole institutional *raison d'etre*, but rather form one component of a large and complex organism. They coexist with numerous graduate students, a faculty that is on campus most of the time, full-time researchers, and an ill-defined body of affiliated individuals. A research university is not, like some campuses, a youth ghetto; and the anti-intellectual attitudes that sometimes thrive in such an adolescent milieu accordingly have less appeal.

The existence of this complex organism, and the extensive resource base that supports it, produces an extraordinary range of opportunities for students. So great are the extracurricular offerings at most research universities that more than a modicum of intellectual curiosity could be a detriment to class work. Thus, only a fraction of these opportunities can be realized by the average undergraduate. This, however, is the nature of a research university: a movable feast where the delicacies far outstrip the appetites of the guests. Nevertheless, sampling some of these offerings, and just becoming aware of the existence of others, can in itself be an important component of a student's education. In these kinds of opportunities research universities are unequalled, but to capitalize upon them requires individual initiative. Probably the paramount factor affecting the character of undergraduate education at research universities is the mix of students. Each of these schools recruits a substantial number of very high-ability students. What varies from institution to institution is the number, aptitudes and interests of their classmates.

The research-intensive universities (Caltech, Hopkins, M.I.T.) undoubtedly have the most homogeneous student bodies because their small classes are recruited almost solely on the basis of academic abilities. The educational philosophies of these campuses encourage moving the students to the level of advanced work as quickly as possible. Interestingly, all three schools allow some or all of the freshman year to be taken on a pass-fail basis—recognition, in effect, of the preliminary nature of such work. They also make it a regular practice for undergraduates to participate in faculty research projects. The peer culture at these schools is obviously highly intellectual. For gifted and motivated students committed to scientific careers, it is difficult to imagine a better learning environment or a more effective education. However, there is no slow lane on these fast tracks.

At Harvard, Princeton, Stanford, and Yale, a somewhat different approach to undergraduate education prevails. Long ago these institutions committed themselves to choose not just the brightest students according to grades or SATs, but a diversified class from among their many qualified applicants. Exactly how each school does this is an institutional secret, although the general rules are evident. The point is that each member of these painstakingly constructed freshmen classes has the opportunity for an outstanding undergraduate education—in terms of faculty, facilities, peers, and environment. The undoubted excellence of these schools, however, is a privilege available by definition to only a few.

Public research universities have a mandate to make their resources available to a far more numerous clientele. "We will support your ambitions to be a world-class research university if you will look after our bright children," is the way Martin Trow has characterized the unwritten compact between the state of California and Berkeley (Trow, 1983). Because of the numbers involved, this clearly has a diluting effect. Thus, a world famous scholar is more likely to be encountered in the lecture room than in a seminar. The trade-off here is that more students will hear the professor, but fewer will have the opportunity for close interaction. The positive benefits of this approach should not be deprecated by comparisons with highly selective private institutions. The public research universities serve many students who are not quite up to the demanding pace of elite institutions, yet who are able and who undoubtedly learn far more than they would in a less rigorous environment. Thus, the advantages of a research university are spread more widely at the state institutions. The role of individual initiative, however, is especially significant here. On large campuses dominated by undergraduates, a student often has to exert greater effort in order to profit from the opportunities that a research university makes available.

The research university ambiance probably contributes to the effectiveness of undergraduate education most markedly at the selective public institutions like Berkeley and Michigan. However at some point, it would seem, dilution can go too far. The research university atmosphere can be overwhelmed by other elements. Specifically, the symbiotic relationship between teaching and the intellectual pursuits of the faculty begins to deteriorate when students lack sufficient preparation and motivation. Perhaps worse, the positive effects of peer culture can be lost entirely. These conditions tend to alienate research-minded faculty. Note that the state research universities in the third stratum of prestige are also those with the highest teaching burdens of lower division students (Table 6).

The character of these research universities has held stable for a generation, and is unlikely to change in the near future. Each institution responds to the logic of its own situation. Perhaps from the standpoint of the socially optimal utilization of resources, the best private research universities are too good; that is, they concentrate their abundant benefits on too few students. But they are in competition with one another for excellence, and the rarified standard to which they aspire precludes increasing their undergraduate enrollments.

State university systems, in general, might benefit from greater differentiation—in particular, from protecting the research milieu at flagship campuses. However, in most cases, higher standards of admission on these campuses would mean substituting out-of-state students for in-state ones; and diminishing size without diminishing the budget would be equally unthinkable. Thus, undergraduate education at research universities will likely continue to have two faces, each with its own special attraction.

Caveats and Qualifications

With their many advantages compared to other colleges and universities, the research universities might produce creditable educational results for undergraduates without too great an exertion. Yet they are burdened by an extraordinary responsibility. They have the task of educating a considerable portion of the nations's most gifted youth. If for no other reason, this challenge has prevented research universities from being complacent about undergraduate education.

A perennial issue, which has been felt most acutely at the research universities, has been the tension between general education and the imperatives of specialization. "Imperatives" is not an overly strong term in light of the rapid proliferation of disciplinary knowledge, not to mention the growth of hybrid and interdisciplinary fields. Yet the desire to give to undergraduates both an acquaintance with the major areas of human knowledge and a common cultural experience remains strong (Bell, 1966). The conflict continues today, as indicated by the controversy surrounding the implementation of a Core Curriculum at Harvard. General education, nevertheless, is probably weaker today than ever. The problem is not the relentless advance of knowledge, rather, some fundamental weaknesses in the concept itself. The first of these is cultural relativity: what one generation designates as the verities of our cultural heritage and the accoutrements of all educated people is rarely accepted as such by the next generation. Second would be the current absence of consensus over what the specific content of general education out to include (Harvard took refuge here in "modes of reasoning"). Third, there seems to be no compelling evidence that institutionalized general education (as opposed to virtuoso individual performances) can actually achieve the cultural and cognitive goals that its proponents claim as justification.

Despite spasms of guilt about specialization, most disciplinary faculty have little use for general education courses. It is often alleged that this is because such courses distract them form research, or because they involve too much preparation. If one does not wholeheartedly endorse the premises of these courses, however, teaching them can be intellectually dishonest. The more closely prescribed the course, the greater the dilemma. Tellingly, the better students tend to desert general education offerings because they find greater stimulation in the disciplines (once called the "Exeter Syndrome" at Harvard). For these reasons, then, the undying impulse to ensure breadth and culture in undergraduate education has been transmuted in most research universities into distribution requirements. The permutations here are limitless, but in essence this solution harmonizes the interests of the disciplinary faculty with the consciences of the deans.

Are teaching and research complementary activities? Or, do the time demands of research and the diversion of intellectual energies inevitably occur at the expense of classroom pedagogy? These fundamental questions have been debated throughout the history of research universities, and proponents can sill be found on both sides. It nevertheless seems to this writer that active scholars at research universities are likely to be the most effective teachers for academically competent students. Actual involvement in research is still the most feasible and most natural way for a professor to keep abreast of his or her field. Furthermore, this activity is the surest means of sustaining intellectual enthusiasm towards one's subject over the duration of a teaching career. As a practical matter, research university faculty teach fewer hours per semester and fewer semesters over the years. They are consequently likely to be somewhat fresher in the classroom than faculty with unrelieved teaching burdens. Still, the synergy of teaching and research cannot be taken for granted.

Recently, two well-informed individuals independently expressed their judgments of the superior quality of undergraduate education at Yale to the author. The reasons given were the effectiveness of the Yale colleges in uniting giving and learning, and the value placed upon teaching by the Yale faculty. The first of these conditions would be impossible for most schools to duplicate (although Princeton and Penn are attempting to move in this direction); but the second would not. Yale faculty are scrupulous about meeting their classes and conscientious about their presentations. This tradition of strong teaching is recognized and encouraged institutionally; and Yale students, having been accustomed to good teaching, are a demanding audience. On

research university campuses where teaching does not have this type of backing, a kind of entrepreneurial spirit can potentially distract faculty from their obligations toward students. It is not research itself that causes problems, rather excessive obligations to disseminate, market, or otherwise exploit one's work. A telling symptom of this syndrome would be courses that are perfunctorily given, with frequent cancellations, by jet-set professors.

Wayne C. Booth recently articulated a rather different concern: that the research mentality is often an outright obstacle to the obligations of teaching beginning undergraduates (Booth, 1983). This situation may be particularly acute in English Literature, where scholarship tends toward the esoteric, and where the disjunction between the goals and the reality of freshman composition can be enormous. Booth does not go so far as to endorse the position of some teaching purists who disdain scholarship entirely. Rather, he calls for scholarship that could and would be utilized by teachers. More generally, Booth essentially warns that the vitality of the conjunction can be lost when either teaching or research are overemphasized.

In light of the past leadership of research universities in undergraduate education, it would be interesting to chart the present currents of change; that is, to cite those problems that the research universities themselves have identified and acted upon.

Harvard, Princeton, Stanford, and Yale, have not only been consistently concerned about optimizing the educational experiences of their undergraduates, but these fortunate institutions possess the wherewithal to undertake significant changes when they so choose. These schools seem to be attempting, without trying to turn the clock back, to overcome some of the permissive and fissiparous developments of the late sixties and early seventies. At Harvard this has meant, above all, instituting the core curriculum—the latest and in many ways the most reasonable pendulum swing toward general education. Yale recently reinstated a foreign language requirement. Behind that step lies a consistent effort to strengthen academic standards by reducing grade and credit-hour inflation, taking a hard stand against plagiarism, and promoting writing skills. Both Princeton and Stanford have acted to enhance the educational potential of residential life in the hope of reintegrating the undergraduate college.

Do these isolated steps constitute a trend of significance for American higher education? It is noteworthy that these institutions seem to be placing greater demands upon their students in curricular coverage, in classroom performance, and as members of an academic community. They thus are running counter to the consumerism that has plagued many colleges and universities as a result of heightened competition for enrollments (Riesman, 1982). It also might be noted that academic majors are generally thriving at these schools, in contrast to the tide of vocationalism that has engulfed large sections of American higher education (Geiger, 1980a).

American higher education today is poised on the edge of a dramatic demographic reversal. For more than a decade, a large college-age cohort resulted in expanding FTEs. These fat years for colleges and universities, however, were lean ones for a large portion of their graduates, who graduated into crowded labor markets. Students instinctively responded to these conditions by discounting their educational investments, and their lack of commitment had a generally deleterious effect upon educational standards (Geiger 1980b). Continuing decreases in the college-age cohort have the potential for reversing this relationship. A healthy market for college graduates could enhance the rewards for quality in higher education. In fact, the demand for places at the best universities is already at its highest level ever. Thus, it is not entirely far-fetched to conceive of a second Academic Revolution within the coming decade. Like the last, this would be led by the major research universities; but unlike the last, the emphasis might be on fostering excellence in undergraduate education. There has been considerable realignment throughout American higher education in the past decade: it may be time for the convoluted "academic procession" that David Riesman described in the 1950s to begin marching once again (Riesman, 1956).

TABLE 1

SELECTED R&D EXPENDITURES FOR 20 RESEARCH UNIVERSITIES

FY 1980

(in millions of dollars)

	Total R&D	National Rank Order	Federal R&D	Federal R&D for Medicine	B-C	Relative Rank Order	General & Educational Expenditures 1979-80	% R&D (A/E x 100)
M.I.T.	163.6	1	138.4	1.6	136.8	1	268.3	61.0%
Wisconsin	138.2	2	89.4	25.1	64.3	3	352.9	39.2
UC San Diego	124.8	3	111.0	26.3	84.7	2	285.8	43.7
Minnesota	119.1	4	68.5	33.9	34.6	19	437.9	27.2
Stanford	113.1	5	102.6	40.7	61.9	4	318.4	35.5
Washington	111.9	6	93.1	36.8	56.3	6	329.5	34.0
Michigan	111.3	7	75.6	21.0	54.6	8	400.1	27.8
Cornell	107.6	8	70.6	19.1	51.5	9	299.7	35.9
Columbia	101.4	9	83.7	36.1	47.6	13	302.2	33.4
Harvard	100.9	10	76.4	20.5	55.9	7	E426.3	23.7
Penn	94.2	11	70.6	21.4	49.2	11	395.2	23.8
Berkeley	90.4	12	64.1	6.3	57.8	5	310.5	29.1
UCLA	88.9	13	70.4	23.5	46.9	14	541.4	16.4
Illinois	88.3	14	52.8	2.5	50.3	10	E318.2	26.2
Johns Hopkins	83.2	15	72.8	35.1	37.7	16	205.4	40.5
Texas	78.6	16	48.7	neg.	48.7	12	235.8	33.3
Yale	71.4	22	63.6	28.3	35.3	17	224.8	31.8
Chicago	58.4	30	50.1	15.4	34.7	18	291.1	20.1
Caltech	43.3	39	38.3	neg.	38.3	15	76.3	56.7
Princeton	27.8	69	20.9	neg.	20.9	21	98.1	28.3

Source: *Academic Science, FY 1980*, (NSF, 1982).

TABLE 2

FACULTY QUALITY RATINGS

National Rank Order	Institution	Phys. Sci., Math	Hum.	Eng.	Biol	Soc. Sci.	Progs. Rated 60 or Higher	Progs. Rated 70 or Higher	TOTAL SCORE
1	Berkeley	6	9	4	4	7	30	15	45
2	Stanford	6	4	4	4	6	24	10	34
3	Harvard	5	5	—	4	6	20	12	32
4	Yale	6	7	—	6	6	25	7	32
5	M.I.T.	5	2	4	3	3	17	12	29
6	Princeton	5	7	4	—	5	21	7	28
7	Chicago	5	4	—	4	7	20	7	27
8	UCLA	5	5	2	6	6	24	—	24
8	Michigan	2	6	3	4	6	21	3	24
8	Wisconsin	5	3	2	5	6	21	3	24
11	Columbia	5	6	—	4	6	21	2	23
11	Cornell	6	6	3	4	3	22	1	23
13	Illinois	4	2	4	4	3	17	2	19
14	Penn	2	5	1	3	5	16	1	17
15	Caltech	4	—	4	1	—	9	6	15
16	Minnesota	3	—	2	2	4	11	2	13
16	Texas	3	3	3	2	2	13	—	13
20	Washington	2	—	1	5	2	10	—	10
21	UC San Diego	2	2	—	3	1	8	—	8
30	Johns Hopkins	—	1	1	1	2	5	—	5

Source: Adapted from Webster, 1983.

TABLE 3

E&G REVENUES

1981-1982

(Raw Amounts, in $000s)

Institution	State & Local Approp.	Tuition and Fees	Endow. Income	Government Grants & Contracts	Priv. Gifts, Grants & Contracts	Other E & G Revenue	TOTAL E & G Revenue
Caltech	$ 000	$ 10,486	$14,320	$ 49,976	$14,546	$ 1,363	$ 90,692
Stanford	000	85,671	37,273	201,434	50,077	36,470	410,925
UC/Berkeley	205,919	50,621	7,835	90,430	16,404	25,094	396,303
UCLA	258,998	66,643	8,900	122,678	32,835	79,624	569,679
UC/San Diego	104,650	21,318	3,174	121,404	14,970	31,364	296,879
Yale	000	65,714	32,194	102,357	28,120	74,324	302,710
Chicago	000	59,748	34,261	75,561	30,650	31,991	232,220
Illinois/Urbana	187,068	29,975	1,766	74,445	21,706	30,953	345,913
Johns Hopkins	3,646	39,551	17,060	104,488	56,338	45,368	266,452
Harvard	000	118,864	94,471	109,247	78,719	25,019	426,320
M.I.T.	000	71,114	14,835	168,499	93,313	996	340,757
Princeton	000	42,836	40,357	29,935	23,386	10,519	147,033
Columbia/Main Divis.	8,987	100,135	35,625	147,091	64,384	32,225	388,477
Cornell/Endowed Colls.	4,337	90,064	26,231	54,342	15,997	15,140	206,112
Pennsylvania	21,996	127,260	18,024	101,213	33,743	24,129	326,364
Texas/Austin	178,088	21,478	27,641	64,024	21,076	29,078	341,386
Washington	134,005	34,415	1,842	149,888	19,533	32,750	372,432
Wisconsin/Madison	187,740	65,701	3,273	117,887	23,719	21,357	419,676
Minnesota, Mnpls./St. Paul	222,361	64,049	7,997	102,614	58,461	66,119	521,600
Michigan/Ann Arbor	142,270	104,120	9,177	36,941	34,797	26,654	353,960
Cornell/Statutory Coll.	66,802	11,497	641	21,754	4,150	30,087	134,931

Source: National Center for Higher Education Management Systems

TABLE 4

SELECTED CHARACTERISTICS, 20 RESEARCH UNIVERSITIES
1979-1980

	A Average Salary Profess. 1981-82	B % Graduate & Professional	C Undergrad. Selectivity: Verb. + Math SAT Medians	D Non-Research Per Student Vol. Support*
Caltech	$45,700	52%	1,400	$8,836
Chicago	42,700	68	1,257	4,123
Columbia	42,100	62	1,285E	3,163
Cornell	39,700	30	1,236	1,507
Harvard	48,500	58	1,300+E	6,250
Johns Hopkins	43,100	62	1,296	3,950
M.I.T.	43,500	48	1,355	4,536
Pennsylvania	42,900	51	1,290	1,596
Princeton	42,000	24	1,310	6,313
Stanford	46,000	44	1,290	4,605
Yale	44,800	46	1,360	6,023
Berkeley	42,800	31	1,240E	360E
UCLA	41,800	33	1,040E	477E
UC San Diego	40,700	18	1,090	612E
Illinois	38,600	22	1,120	353
Michigan	39,800	37	1,130	500
Minnesota	33,400	23	980E	630
Texas	38,700	22	1,050	312
Washington	37,800	26	1,070	350
Wisconsin	35,300	28	1,000E	333

* $\frac{\text{(Table 5: B + D − G)}}{\text{Table 4: A}}$

Sources: *Fall Enrollments in Higher Education, 1979*. National Center for Education Statistics, 1982.
Academe, 68,4 (July, 1982).

TABLE 5

VOLUNTARY SUPPORT FOR 20 RESEARCH UNIVERSITIES

1979-1980

	A Total Voluntary Support (000,000)	B Voluntary Support for Current Operations	C Endowment	D Endowment Contribut. to Current Opers. @5%	E B&D as % of Current Operations	F % Alumni Contribut. to Volunt. Support	G Volunt. Support Current Research
Caltech	$15.5	$ 8.6	$198.4	$ 9.9	20.3%	9.0%	$ 3.7
Chicago	33.7	22.2	343.1	17.2	13.5	18.4	5.1
Columbia	38.1	25.6	533.0	26.7	17.3	21.5	8.0
Cornell	46.3	25.0	328.7	16.4	13.8	46.4	14.4
Harvard	76.2	33.6	1,491.1	74.6	E25.4	42.7	10.8
Johns Hopkins	29.0	22.5	236.5	11.8	16.7	19.7	11.5
M.I.T.	38.1	25.7	550.9	27.5	19.8	28.6	14.3
Pennsylvania	49.1	25.1	224.5	11.2	9.2	16.5	8.6
Princeton	32.7	12.2	547.8	27.4	40.4	54.0	2.5
Stanford	60.1	31.4	642.6	32.1	19.9	26.7	8.5
Yale	59.6	36.0	676.4	33.8	31.0	57.6	12.3
Berkeley	11.5	8.7	na	na	2.8	15.6	2.9
UCLA	27.7	18.8	na	na	5.1	2.9	9.3
UC San Diego	8.6	8.0	na	na	2.8	0.7	3.3
Illinois	28.0	22.8	48.3	2.4	E4.9	7.5	11.4
Michigan	33.9	26.2	129.1	6.5	8.2	20.0	15.9
Minnesota	40.6	35.5	106.2	5.3	9.3	4.7	10.7
Texas	23.1	18.2	57.6	2.9	8.9	13.9	8.5
Washington	24.9	20.6	70.3	3.5	7.3	24.0	13.2
Wisconson	31.1	23.0	66.8	3.3	7.5	22.6	14.6

Source: *Voluntary Support of Education, 1979-80 (CFAE, 1981)*

TABLE 6

STUDENT LEVEL AND ENROLLMENT STATUS, FALL 1982

Lower Division/Upper Division/Graduate
Part-Time and Full-Time Headcount; Raw Data Values

Institution	Total FTE Enrollment	Lower[1] Division[2]	Upper Division[2]	Graduate[2]	Part-time Headcount	Full-time Headcount	Total Headcount
Caltech	1,810	427	447	936	0	1,810	1,810
Stanford	12,332	3,260	3,296	5,469	2,179	11,605	13,784
UC/Berkeley	28,092	9,951	9,513	8,582	2,396	26,300	29,296
UCLA	33,259	11,762	10,110	9,687	2,682	31,886	34,568
UC/San Diego	12,687	6,038	4,038	2,074	692	12,410	13,102
Yale	10,170	2,611	2,517	4,960	398	9,934	10,332
Chicago	8,145	1,553	1,263	5,224	1,859	7,154	9,013
Illinois/Urbana	33,226	13,127	12,337	7,347	3,499	31,415	34,914
Johns Hopkins	6,599	1,169	1,134	3,469	5,033	4,922	9,955
Harvard[3]	15,866	1,981	2,077	8,981	8,143	13,103	21,252
M.I.T.	9,191	2,206	2,317	4,512	576	8,999	9,575
Princeton	6,090	2,239	2,280	1,512	94	6,059	6,153
Columbia/Main Div.	14,098	2,967	2,159	8,650	2,989	13,102	16,091
Cornell/Endowed Colls.	10,597	3,752	3,612	3,224	30	10,585	10,615
Pennsylvania	18,315	4,693	4,387	8,304	4,950	17,367	22,317
Texas/Austin	45,082	17,593	16,565	9,820	5,858	42,181	48,039
Washington	29,919	11,936	9,700	7,123	7,958	26,510	34,468
Wisconsin/Madison	37,814	13,017	14,251	9,486	6,984	35,246	42,230
Minnesota, Mnpls./St. Paul	48,697	22,891	12,277	11,684	25,050	39,465	64,515
Michigan/Ann Arbor	32,630	10,876	10,666	11,088	4,236	30,836	35,072
Cornell/Statutory Coll.	6,865	2,412	2,759	1,694	1,024	6,528	7,552

1. For academic years 1979-80 and earlier:
   Lower Division = 1st time freshmen + Other 1st yr + 2nd yr (FT and PT FTE)
   Upper Division = 3rd yr + 4th yr and beyond (FT and PT FTE)
   For academic years 1980-81 and later:
   Lower Division = 1st time freshmen + Other 1st yr + 2nd yr (FT only) + Total Undergrad. (PT FTE)
   Upper Division = 3rd yr + 4th yr and beyond (FT only)
2. Does not include Unclassified
3. Fall 1981; does not include Radcliffe College

Source: National Center for Higher Education Management Systems

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