



A Presentation by

JAMES J. DUDERSTADT, PRESIDENT

The University of Michigan

The Role of
the Research
University in
Undergraduate
Education

Address to the
University of Michigan
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Across the nation, colleges and universities are once again focusing their attention on the nature and the quality of undergraduate education. There have been criticisms from the right—Allan Bloom and William Bennett—and from the left asking for new styles of learning based on non-western cultures and for new forms of thought such as feminism, liberation theology, and so on. The specter of an abrupt decline in the number of high school graduates, as our nation slides down the backside of the post-war baby boom, threatens our supply of outstanding students. And perhaps there is a cyclic nature to these concerns, which seem to rise once again to the top of our agenda every decade or so.

Two recent personal experience events have focused my own ideas on the nature of undergraduate education at Michigan:

In November 1986 I had the pleasure of attending the Conference at Harvard when Ernie Boyer introduced the Carnegie Foundation report on the undergraduate experience in America. Interestingly enough, only a very small handful of the invited participants were from public research universities such as ours. On several occasions I was cornered in the halls and asked by my colleagues, "Why is Michigan here? You people aren't concerned with undergraduate education, are you?"

In fact, it was this perception—rather, misperception—of the role of the research university in undergraduate education that disturbed me more than any of the other issues raised by Dr. Boyer and his colleagues. Indeed, even our own undergraduates feel this way. In our 1986 Enrollment Decision project, we found that both those students who choose to come here, and those who go elsewhere, believe that undergraduate education is a low priority of the University.

My second experience of awakening occurred at the 1988 Spring Commencement Exercises of the University. Looking out at the turbulent masses of new graduates engaged in their own strange rituals of celebration, totally ignoring the ceremony and the speakers attempting to address them, I could not help but wonder whether we had indeed adequately prepared these students to enter "the society of learned men and women. . .and to admit them to all of its rights and privileges."

Hence, it seemed appropriate that before discussing a number of the initiatives we have launched in recent months, I first begin with a few personal observations about the nature of undergraduate education in the comprehensive research university, in general, and at the University of Michigan, in particular.

The Myth and the Reality

We all know the popular myths.

When one thinks of distinguished private institutions such as Harvard and Yale, one thinks first of Harvard College and Yale College, their superb undergraduate colleges, since these are perceived as both the focus and intellectual soul of private higher education. But what do you think of first when someone mentions Michigan or Michigan State, or Minnesota or Ohio State? Football, perhaps? Fraternity and sorority life?

Actually, I suspect that one first tends to think of the commitments that these great public universities have made to the professions, to their schools of law and medicine, engineering, and agriculture. We also might recognize the responsibilities of these institutions to serve the public and about their great research programs. But, few of us would think first about their commitment to undergraduate education.

Rather, the image of undergraduate education in large public universities such as ours is one of thousands of students wandering in and out of large lecture courses in a random fashion, of courses taught by foreign teaching assistants, attended by students on their way from their fraternity or sorority house to the football stadium. We think of undergraduate students in these institutions as identified only by their I.D. number until the time of their graduation, where they are asked to stand and be recognized along with thousands of other fellow graduates.

Let us look beyond the myth at the reality for a moment; however:

- (1) Well over half of the students on the campuses of major public universities are undergraduates. Indeed, at Michigan we enroll over 18,000 undergraduates in our liberal arts college, which makes it the largest commitment to liberal arts education in any university in the nation.
- (2) By essentially any measure, the undergraduates on our campuses today are our strongest students—just as they are at other highly selective institutions such as Harvard, Yale, and Stanford. For example, this fall our average entering freshmen will rank among the top 3 percent of high school graduates. Indeed, over 1,000 of our entering freshmen will have graduated in the top 1 percent of high school graduates. Hence, whether measured by quantity or quality, the significant fraction of our efforts are, or at least should be, focused on undergraduate education.
- (3) The intense competition for admission to our undergraduate programs and the attractive marketplace for our graduates suggest that we must be doing

something right. For example, at Michigan applications for admission to our freshman class have been increasing at a rate of about 10 percent per year for several years, despite the well-known demographic decline in the number of high school graduates. This year we received over 19,000 applications for the roughly 4,500 positions in our freshman class. Furthermore, the demand for our graduates continues to increase, whether from employers, professional schools, or graduate schools.

- (4) Although we have all seen studies such as the one released by the Oberlin group suggesting that small liberal arts colleges are the key sources of students for our graduate and professional schools, the facts suggest otherwise. Recent studies by the National Science Foundation have confirmed that the largest source of professionals, of scholars, of leaders of our society, are our large, comprehensive, public research universities. Indeed, at Michigan we have led the nation for many years in the number of our undergraduates who go on to professional careers such as law, engineering, and medicine. But this should not be too surprising, since the impact of our programs is generally dependent on both the quality and number of our graduates.

Therefore, let us set aside both the myths and the realities for the moment and address the most critical questions of all:

- (1) What is the role of the comprehensive research university in undergraduate education?
- (2) How effective are our research universities, in particular, our

great public research universities such as the University of Michigan, in responding to the challenge of undergraduate education?

What we are. . .and what we are not!

What is unique about our universities? What is our "market niche"? Well, we are all large, comprehensive, public, research universities. We all share a serious commitment to scholarship as well as a commitment to unusual breadth across a rich diversity of academic disciplines, professional schools, and social and cultural activities. We have all achieved an unusual degree of pluralism in our students, faculty, and staff. Our campuses demonstrate an unusual degree of participation of faculty and students in the university decision process. And we all share in an unusually strong commitment to the quality of our students, our faculty, and our programs.

In a sense, the strength of our institutions depends upon our efforts to achieve an optimum blend of quality, breadth, and scale. We attempt to do a great many things, to involve and benefit a great many people, and we attempt to do everything very well. Furthermore, we attempt to achieve a balance among teaching, research, and service, as well as undergraduate education, graduate education, professional education, and faculty scholarship and development. It is important to note that we do not view achieving this balance as a conflict among competing goals. Rather we view it as an opportunity to exploit an important creative tension.

It is this blend of missions which provides our research universities with such a unique environment for undergraduate education. We are not, nor should we try to imitate, a small liberal arts college, with a faculty chosen

primarily for their teaching skills and with a curriculum limited both by design and resources. Rather, we are a large, comprehensive university, spanning almost every intellectual discipline and profession. We have the capacity to attract and sustain many of the world's leading scholars. We provide intellectual resources unmatched elsewhere in our society, whether in the extent of our library and museum collections, or in the laboratory facilities we provide, or in the exotic new tools of our intellectual trades ranging from supercomputers, to the sophisticated equipment required for solid state electronics and recombinant DNA research, to the expensive instrumentation used for positron emission tomography in our medical centers.

This suggests that research universities can and should play a very unique role in undergraduate education:

- (1) We should provide our undergraduates with an experience which draws on the vast intellectual resources of the modern research university: its scholars, its libraries and museums, its laboratories, its professional schools, its remarkable diversity of people, ideas, and endeavors.
- (2) We should expose our students to the excitement of great minds struggling to extend the bounds of knowledge. Of course we recognize that the scholars we place in the classroom may not always be the best teachers of knowledge in the traditional sense. But research universities benefit from the presence of a cadre of excellent, stimulating teachers, and we are convinced that only by drawing into the classrooms faculty with strong commitments to scholarship can we stimulate our students to develop the skill at inquiry across the broad range of

scholarly disciplines that is so essential to life in an age of rapidly expanding knowledge.

- (3) We should develop in our students both the ability and will to strive for knowledge. We believe that a critical component of an undergraduate education in a research university is the development of the will to seek and the skill to find.
- (4) We should expose our students to the diversity, the complexity, the pluralism of peoples, cultures, races, and ideas that can only be found in the intellectual melting pot of the modern research university.
- (5) And we must also accept our mission to educate the leaders of American society. Indeed, if past experience is any guide, most of the leaders of this nation will continue to be produced by our great research universities.

Improvement of the Undergraduate Experience

Of course, for several years, long before the Carnegie Foundation Report, there has been a resurgence of efforts to re-examine and improve undergraduate education in our public research universities. Indeed, every major university with which I am familiar has had some level of activity aimed at examining and enhancing the quality of undergraduate education underway for some time.

Why the recent focus in our institutions on undergraduate education? Well, I suppose one might explain this by saying that curriculum reform is cyclic, and the pendulum is now swinging back after the permissiveness of the

1960s. One might also suspect that market forces are at work. We are all too aware that the population of high school graduates will drop in this part of the United States by 25 to 30 percent by the early 1990s. There is nothing like a demographic crunch to stimulate educational institutions to improve their product.

However, perhaps there is a higher motive to these actions. I noted earlier the remarkable quality of students now entering our institutions. Perhaps our renewed focus on undergraduate education is evidence of our efforts to be a more responsible steward of these extraordinary human resources. Then, too, it might be in part our efforts to respond to the complexity of the problems of modern society.

It is also true that the focus on undergraduate education may be part of a long needed rebalancing of the priorities of our institutions. For several decades, indeed since World War II, most of our large public research universities have focused their attention on building strong programs in the professions of law, medicine, business, engineering, and agriculture. Perhaps this was due to a sense of public responsibility. Or maybe it was due to the demand from students for these programs, or the demand from employers for our graduates. But, whatever the reason, it is probably true that most of us have invested the lion's share of our resources for many years in the professions at the expense of the quality of our undergraduate programs.

Yet, as our colleagues in the private institutions have known for so long, the cornerstone of any distinguished academic institution is its undergraduate college. This college and those intellectual disciplines that derive from these programs form the academic soul, the intellectual core of our institutions, and over a period of time will determine both the distinction of the institution as well as the strength of

its other endeavors in the professions, in research, and in service.

Therefore, it is important that we realize that what is happening is not a revolution. Indeed, we do not need a revolution in undergraduate education, because by and large, our universities are already doing a very good job. Rather what we need is a renewal, a renewal in our commitments to quality in our undergraduate education, stimulated by our sense of responsibilities to our students and society, and by our aspirations for excellence.

Themes of the Past: From Bloom to Bloom County. . .

It has become fashionable to launch slings and arrows against the undergraduate experience in American colleges and universities. Allan Bloom, in his best selling book, *The Closing of the American Mind*, proclaims that the American university has succumbed to relativism and abandoned its purpose and principles. In attempting to embrace openness and freedom, the university has allowed "radical subjectivity of all belief about good and evil" to dominate its curriculum. By consenting to play an active, participating role in society, Bloom claims that the university has become inundated and saturated with the backlog of society's problems. The classical curriculum that used to aim at providing students with the knowledge of the great tradition of philosophy and literatures necessary to become aware of the order of nature and one's place in it has been replaced by a "democracy of disciplines" that offers no university-wide agreement about what a student should study.

So too, former Secretary of Education William Bennett longs for a return to the yesterday of college education, with a new stress on moral education: "Students deserve a

university's real and sustained attention to their intellectual and moral well-being."

There is almost a sense that our universities have embraced a new type of philosophy of "literalism," first articulated by yet another Bloom—Bloom Country—in the personification of the penguin character Opus:

"You're born. . .
You live. . .
You go on a few diets. . .
You die."

But all too often voices such as Bloom and Bennett also call for a return to a style of education characterizing our past, not our future.

It is certainly the case that the undergraduate curriculum has lost much of the coherence and breadth that it once had. It no longer seems capable of providing the personal moorings and commitment to shared ideals and worthy ends. But, as noted by Frank Rhodes, President of Cornell, it is also not apparent that a return to the classical curriculum based on the liberal arts will restore this sense of purpose. Indeed, the same fragmentation and specialization characterizing the professions has also struck the liberal arts themselves. The arts and humanities seem to have become increasingly disengaged from the concerns of humanity and thereby have lost much of their ability to exert a transforming and enriching influence on students. As Rhodes notes, "Many of those who profess to be humanists devote their lives to areas of high abstraction, decoding texts and deconstructing poems, while the larger issues of the world and humankind's place in it elude them."

Indeed, Rhodes suggests that for many students, today's liberal education must be provided through a professional education, not instead of it. The challenge is to infuse profes-

sional education with a new spirit of liberal learning, one that sees skills as a means to larger ends, that sees the profession itself as part of the art of living a useful and fulfilling life.

The Need for a New Paradigm of Liberal Learning

The students we are educating today will spend the majority of their lives in the twenty-first century. Yet most of us—and our faculties—are products of the twentieth century. Furthermore, the structure of the American university as we know it today is a product of the nineteenth century! Hence we must face a serious possibility when addressing concerns such as those raised by Bloom and Bennett: Are these critics of higher education in America backing into the future, so preoccupied with the past that they have been unable to develop a vision to guide the education of the citizens of the twenty-first century that now study on our campuses?

Let me suggest that we should instead consider the nature of undergraduate education within a broader perspective dictated by several key themes of the future our students will face:

- A future in which our nation becomes a truly multicultural society, with a cultural, racial, and ethnic diversity that will be truly extraordinary in the history of our civilization;

- A future in which America will become “internationalized,” in which every one of our activities must be viewed from the broader context of participation in the global community as America becomes a “world nation,” with ethnic ties to every part of the globe;

- A future in which we rapidly evolve from a resource and labor-intensive society to a

knowledge-intensive society, in which intellectual capital—educated people and their ideas—becomes the key to our prosperity, security, and well-being.

Today, perhaps as never before, we need a new paradigm, an educational model for the twenty-first century. Let's look at these challenges in a bit more detail:

1. Demographic Change:
Diversity and Pluralism

America is changing rapidly. By 2020, one of three Americans will be a person of color. By 2000, one-third of college-age students will be from these group. By 2000, 47 percent of our school children (K-12) will be Black or Hispanic.

There seems little doubt that America of the twenty-first century will probably be one of the most pluralistic, multicultural nations on earth. It is important to note here that twenty-first century America will NOT be a mixing pot in which all cultures are homogenized into a uniform blend. Rather, it will be pluralistic, composed of peoples of vastly different backgrounds, cultures, and beliefs, peoples who seek to retain their cultural roots, to maintain their differences.

Our nation will face a challenge of diversity and pluralism in the years ahead that will determine our strength and vitality. Full participation of under-represented minorities is not just a matter of equity and social justice. It is the key to the future strength and prosperity of American, since our country cannot afford to waste the human talent represented by its minority populations. America cannot afford the loss of this human potential, cultural richness, and leadership. If we do not create a nation that mobilizes the talents of all our citizens, we are destined for a diminished role in the global community and a social turmoil unequaled at any time in our history.

This is probably the most serious challenge facing American society. While it is true that universities cannot solve this problem alone, they must not use this fact as an excuse for doing nothing. As both a reflection and leader of society at large, higher education has a special challenge and responsibility to develop effective models of multicultural, pluralistic communities. We must strive to achieve new levels of understanding tolerance, and mutual fulfillment for peoples of diverse racial and cultural backgrounds.

2. The Internationalization of America

It will be a future in which America will become "internationalized," in which every aspect of American life must be viewed from the broader context of participation in the global community, as America becomes a "world nation," with ethnic ties to every part of the globe. There are already many signs of this growing interdependence: communications, travel, the internationalization of commerce and industry, national security, and interdependence. The market for nearly all significant manufacturing industries has become worldwide. The fact is, a truly domestic US economy has ceased to exist. Today, imports and exports represent about 10 percent of GNP; 70 percent of goods we produce competes directly with foreign goods. In slightly more than five years, the US trade deficit has taken us from the world's largest creditor to its largest debtor nation.

The "shrinking globe" phenomenon suggests that understanding cultures other than our own is necessary for good citizenship. But there is yet another reason for such a capacity.

The United States today is the destination of about half the world's immigrants—perhaps 10 million this decade alone. Today one-third of annual population growth is through immigration. America is evolving into

the first true "world nation," shifting rapidly away from "Eurocentricity" into a society with strong ethnic ties to all parts of the globe, with a growing focus on the nations of the Pacific Rim.

It is clear that our nation is no longer self-sufficient or self-sustaining. We are not immune to the shocks of the world society. We have never been more dependent on other nations and peoples.

It seems clear that if the university is to prepare its graduates for an increasingly polycentric world, we must begin to think more imaginatively, more strategically. This University is a truly international center of learning, and it is important that our students take advantage of this during their education, whether through formal studies of other cultures at one of our overseas campuses or simply by going out of their way to get to know students and faculty from other nations.

3. The Age of Knowledge

Looking back over history, one can identify certain abrupt changes, discontinuities, in the nature, the very fabric of our civilization: the Renaissance, the Age of Reason, the Age of Discovery, the Industrial Revolution. There are many who contend that our society is undergoing yet another such dramatic change. As Erich Bloch, Director of the National Science Foundation puts it, we are entering a new age, an "age of knowledge in a global economy."

The signs are all about us. Our traditional industry economy is shifting to a new knowledge-based economy, just as our industrial economy evolved from an agrarian society at the turn of the century. Industrial production is steadily switching away from material and labor-intensive products and processes to knowledge-intensive processes. New ideas and concepts are exploding forth at ever increasing rates, concepts which have shaken apart the

classical foundations of knowledge, e.g., the theory of relativity, quantum mechanics, the molecular foundations of life, genetic engineering, radical critiques of fundamental premises, scholarship, and culture by feminists, minorities, and third-world scholars.

In many fields, the knowledge base is doubling exponentially with a half-life of a few years. Furthermore, the typical college graduate of today will likely change careers several times during a lifetime.

It seems clear that the future will be a time in which permanence and stability are less valued than flexibility and creativity, in which the only certainty will be the presence of continual change. Hence a college education today will only serve as the stepping stone to a process of lifelong education, and the ability to adapt to—indeed, to manage—change will become the most valuable skill of all.

4. Linkages to the Professions

The professions are and must be an intimate part of both the career objectives and the educational experience of our undergraduates. Hence, the key must be to provide a liberal education through a professional education—not instead of it. As Rhodes puts it, we must infuse professional education with the spirit of liberal learning, to see skills as a means to larger ends. We must link education to the business of life.

5. Moral Education

Let us return to Bennett's concern for a moment: "Students deserve a university's real and sustained attention to their intellectual and moral well-being." While I find it difficult to agree with Bennett's specific actions, I do agree with his general concern. After all, most of our colleges were originally founded to enhance the intellectual and moral well-being of students.

Until this century, educators throughout history not only sought to build the character of their students, they made this task their central responsibility.

But the theme of higher education in the twentieth century was intellectual rigor. The training of the mind was clearly separated from the development of character. Today a reaction has set in, born of a recognition that the public needs common standards to hold a diverse society together. There is a new respect for limits that carries with it concern for the moral values and restraints that unify communities and keep human conduct within acceptable bounds.

Bok has laid out an interesting framework for moral education. He believes that universities cannot avoid this task. Like it or not, they will affect the moral development of their students by the ways in which they administer their rules of conduct, by the standard they achieve in dealing with ethical issues confronting the institution, by the manner in which they counsel their students and coach their athletic teams.

To this end, Bok has laid out a framework for addressing concerns for moral development:

- **Early Steps:** The first weeks that students spend on campus are often critical in shaping their attitudes toward the institution and what they will take away from their experience. We should use this opportunity to expose new students to the important academic and community values of our institutions.
- **Ethics and the Curriculum:** Almost any well taught course can strengthen the capacity to think more carefully about intellectual problems, including ethical issues. There are gaps that new

courses in applied and professional ethics seek to fill. Properly taught, they can yield important benefits. By studying problems that commonly arise in personal and professional life, students will be more likely to perceive moral dilemmas they would otherwise ignore.

- **Rules of Conduct:** Universities need to consider extending their efforts beyond the classroom. An obvious step in this direction is to have rules that prohibit lying, cheating, stealing, violent behavior, interference with free expression, or other acts that violate fundamental norms. Such rules not only protect the rights of everyone in the community; they also signal the importance of basic moral obligations and strengthen habits of ethical behavior. A final aim in maintaining discipline should be to involve students in the process of devising and administering rules.

- **Acquiring Concern for Others:** We should seek extracurricular activities that bring the participants into collaborative or communal relations, especially if someone with experience is available to offer advice and counsel when ethical challenges arise.

- **Ethical Standards of the Institution:** Nothing is so likely to produce cynicism, especially among those taking courses in practical ethics, as a realization that the very institution that offers such classes shows little concern for living up to its own moral obligations.

- **The Institutional Environment:** What is truly destructive, therefore, is not the fact that immoral acts occur but the

willingness of an administration to overlook them. It is clear that universities can play an important role in the moral development of their students. They have the capacity to instill a greater respect for facts and a greater ability to reason carefully about complicated problems. Their diverse community populated by students and faculty with many different backgrounds and points of view, provides an environment which teaches tolerance, a respect for differing values, a recognition of the complexity of human problems.

6. The Preparation for Leadership

Finally, we must recognize that institutions such as our university are responsible for developing the future leadership of our society. Hence we should place new emphasis on the preparation for leadership of our students. We should stress leadership traits in our educational environment.

John Gardner in his book Leadership suggests some of the key themes:

- **A commitment to the fulfillment of human possibilities:** The release of human potential is and must always be a central value. Serious and sustained attention to the special problems of justice to historically deprived groups is essential.
- **Creating a sense of community:** Shared values and goals are the chief resources leaders can count on in motivating people. The task grows difficult, eventually impossible, as shared values disintegrate. Colleges might ask themselves whether their campuses are places where students can experience a sense of community.

- **Renewal:** Leaders have to be capable of self renewal and capable of helping in the renewal of the systems over which they preside. They must learn to balance continuity and change.

- **Hope:** Human beings are creatures who cheerfully act against the odds if they believe strongly enough, who reach for the unreachable stars and dream of impossible victories. We must help young, potential leaders to value and to understand this side of our nature.

- **Discipline of the Mind:** The central task of a university, a task which separates it from all other social institutions, is the creation of an environment where the quality of mind and of its performance is always the central concern. The spirit most likely to develop leaders is a disciplined use of reason, enlivened by daring and the courage to experience, and tempered by respect for what we can learn from others.

There is yet one other characteristic of true leadership, and that is the acceptance of responsibility. From the earliest moments in our long history, the University of Michigan has been known for a spirit of democracy and tolerance among its students and faculty.

Almost a century ago, Harper's Weekly noted: "The most striking feature of the University of Michigan is the broad and liberal spirit in which it does its work." Student activism and involvement have always been an important part of the learning process at Michigan.

Yet, while it is of paramount importance that we protect the fundamental freedom of students and faculty to explore new ideas and concepts, to state their beliefs and values, no matter how far they may be from mainstream

thought, it is also essential to recognize that without the acceptance of responsibility, freedom is meaningless. Indeed, true leadership consists not of simply protesting the existence of a problem, but rather consists of doing something positive about it.

In a very real sense, I suppose, the acceptance of responsibility along with freedom implies that one also accepts a commitment to move away from a negative stance of merely complaining or protesting and rather making a positive effort to address the challenges before our society. As Bok puts it, "We should seek to develop in our students a critical mind, free of dogma, but nourished by the humane values necessary for leadership in a changing, fragmented society."

7. A Personal Plea: Scientific Literacy

It is of course the case, although frequently overlooked, that the "liberal arts" include the natural and social sciences, since together with humanities, they have the potential to liberate the human intellect and the human spirit.

Yet in American universities we do not insist on a balanced education for our students. We fail to provide them with the intellectual foundation necessary for coping with the increasing pace of scientific and technical knowledge that will be so critical to participating fully in a future of change. Just think of the pace of discoveries of the past year alone:

- a hole in the ozone layer over Antarctica
- new supernova in the heavens
- new high temperature superconductors
- a new theory suggesting that all matter is composed of infinitesimal "super strings" rather than point particle.

Yet, at the same time public ignorance is extraordinary! A recent NSF survey indicated that only 18 percent of those asked said they knew how a telephone works, and only half of these gave the right answer. Yet more than half of those surveyed indicated they believed we were being visited by aliens from outer space!

One of the fundamental reasons for this difficulty is that education in science is highly vertical, where one subject is built upon knowledge of another. Scholarship in the humanities is much less vertical; it is primarily extensive rather than intensive. Unlike literature or social science, the highly vertical subjects of science are very difficult to learn after college. Unless one learns the language of science or mathematics in college, one is likely to remain scientifically illiterate for life. Yet, most colleges shy away from even attempting to provide a complete education. Indeed, most require only two or three semester courses in science. It wasn't always this way. In 1850 Harvard required 25 percent mathematics and science including physics, zoology, chemistry, and biology.

What can be done about this tragic shortcoming in the undergraduate curriculum? If MIT and Caltech demand that their science students take 25 percent in the humanities, perhaps we should require that humanists invest 20 to 25 percent of their effort in science, at least leading them up a gentle slope to a more considerable level of learning.

The tragedy is not simply the incomplete nature of the education we are providing our students. Rather, literacy in science and technology will increasingly become a requirement for meaningful participation in life of the twenty-first century. By not addressing this issue in our universities, we may be condemning an entire generation of college graduates to a lifelong estrangement from the very knowledge that may govern their lives in the years ahead.

Undergraduate Education for the Twenty-first Century

The debate over the character of undergraduate education generally focuses on several philosophies of instruction:

The Great Books Approach: Here the goal is to transmit a defined body of learning to the student, as captured in the great works of human thought. As Bloom puts it, "Philosophy and liberal studies, in general, require the most careful attention to great books. This is because these are expressions of teachers such as we are not likely to encounter in person, because in them we find the arguments for or what we take for granted without reflection, and because they are the sources of forgotten alternatives."

Methods of Understanding and Inquiry: In this approach, one stresses an acquaintance with the principal ways by which the human mind apprehends the world, i.e., methods of understanding and inquiring about literature, art, moral philosophy, history, economy, and society, as well as natural sciences. This approach to liberal learning looks upon undergraduate education as a foundation to provide students access to many fields they can pursue later in life.

Distribution and Breadth: In this approach, one achieves breadth by requiring students to take a certain number of courses in each of several diverse categories such as the social sciences, natural sciences, humanities, and arts. This philosophy assumes that different disciplines have separate and valuable ways of apprehending the world and that requiring students to sample a wide variety will suffice to broaden their minds.

Of course, in practice most undergraduate programs combine aspects of all three methods. Furthermore, most would agree that the undergraduate curriculum should seek a common set of goals such as those articulated by Rhodes:

1. The ability to read, write, and speak with clarity, precision, and grace, and to understand and articulate not only the facts, but the nuances and shades of meaning.
2. The habit of disciplined inquiry, the ability to delve deeply, systematically, and thoroughly into new subject areas.
3. The understanding of times and cultures other than our own.
4. An appreciation of nonverbal and non-quantitative expression, including those of the creative and performing arts.
5. An in-depth study of one chosen area to develop an appreciation of the methods, boundaries, relationships, limitations, and significance of a specific discipline.
6. Through a wide-ranging perspective of the world at large, the development of a sense of the context—physical, biological, social, historical, and ethical—in which students will live their lives.

As Derek Bok, President of Harvard, puts it, the most important product of an undergraduate education in a changing, fragmented society may be “a critical mind, free of dogma but nourished by humane values.” To achieve this, we need a new spirit of liberal learning, one that strives not just to impart the facts but to encourage and support our students to develop some philosophy of life.

The Michigan Initiatives

At Michigan for the last several years the larger undergraduate programs in our liberal arts college, engineering, and business administration have completed major blue ribbon studies re-examining the undergraduate curriculum. These have resulted in a great many suggestions about both academic and extra-curricular actions to improve the undergraduate experience.

However, we also recognized that an institution-wide effort was necessary. Therefore, we set off on a course over a period of several years to launch a series of initiatives aimed at sustaining and enhancing the vitality of our undergraduate programs. To fund these, we have set aside over \$1 million per year to fund a series of initiatives aimed at improving the quality of our educational programs. Many of these initiatives will be determined through an open competition in which students, faculty, and staff compete for funds. We are interested in stimulating a wide range of experiments designed to improve the quality of undergraduate education. We are looking for good ideas, but we are also prepared to make the base commitments to support successful ventures.

The common thread throughout these initiatives is grass roots involvement. We seek proposals, ideas, and participation in defining programs from our faculty, students, and staff that will address excellence in undergraduate education. We seek to invest resources in a way that will motivate our most creative people to become involved and to become committed.

We have completed the first series of awards in these programs. They will result in an interesting portfolio of new initiatives. We will be developing a new series of core curriculum courses in the liberal arts. Our instruction in science and mathematics in the freshman and

sophomore years will undergo major revisions. We are implementing new initiatives aimed at better integrating the arts such as theater, dance, and music into the undergraduate curriculum. We are taking major action to improve both counseling and the importance and sensitivity to pluralism in the University. And we have funded a number of student proposals, ranging from undergraduate colloquia to faculty fellow programs in the residence halls, to on-line counseling and information services on our campus computer network, to an alternative career center. And of course we are addressing major pedagogical needs such as teaching assistant training.

The major areas of attention during the first round of awards included:

- Promoting critical thinking and writing skills;
- Creating a new spirit of liberal learning;
- Promoting acceptance of pluralism and diversity; and
- Promoting improved faculty-student interactions.

As we now move to the second phase of our effort, we are moving away from open solicitation of proposals to working instead directly with the schools and colleges. Among the areas of particular interest are:

- The unique nature of undergraduate education in the research university;
- Linkages to the graduate disciplines and professions;
- Enriching the intellectual life of undergraduate students; and
- The role of the sciences in a liberal education.

We have taken many other steps to raise undergraduate education to a higher priority within the University. For example, we established a series of named professorships, the Thurnau Professors, to honor faculty with extraordinary achievements in undergraduate education. We have launched a series of renovation and new construction projects to improve the quality of instructional space on campus, including renovation of the Undergraduate Library, all Central Campus classroom space, and a spectacular central faculty for computer access (including over 400 workstations). We have launched a commission to study ways of better integrating academic programming into the residence hall environment. And we are restructuring our full range of student services to integrate them more effectively into the academic life of the university.

Of course, we realize in an institution of such size, complexity, and tradition, those of us over in the blockhouse will have little capacity to define, redirect, or reorder the priorities of the University. The articulation and achievement of any mission must be a communal effort. It will rest with faculty groups in and across schools and colleges, with students inside and outside their formal organizations, and with professional and other staff throughout the University. Hence, the role of the leadership of the University is simply to generate the debate and then to provide resources for continuous experimentation.

Concluding Remarks

What is the aim of undergraduate education at Michigan? Is it to prepare our students for a career as doctors, lawyers, engineers, teachers—even investment bankers? Well, we will do our best, but that is not our real mission.

The challenges I have discussed today suggest that the principal focus of an undergraduate education appropriate for the twenty-first century will be the goal of liberal learning, that is, a liberal education as the preparation for a lifetime of learning.

Last fall, at the Carnegie Foundation meeting at Harvard, one of the keynote speeches was given by Dr. Frank Rhodes, President of Cornell. In his talk, President Rhodes paraphrased that a passage from the poet Robert Browning's *Andrea del Sarto*: "Ah, but a man's reach should exceed his grasp, or what's a heaven for?" President Rhodes rephrased this to apply to undergraduate education: "Ah, but a student's reach should exceed his grasp, or what's a college for?"

Let me suggest that this great intellectual banquet offered by our research universities should stimulate our undergraduates to reach; but beyond that, it should also give them something on occasion to grasp!

What is the role of the comprehensive research university in undergraduate education? Let me borrow the answer from Emerson's Phi Beta Kappa address at Harvard a century and a half ago:

"Colleges have their indispensable office, to teach elements. But they can only serve us when they aim not to drill but to create; when they gather from far every ray of various genius to their hospitable halls, and by the concentrated fires, set the hearts of their youth on flame."

And, that is our real purpose. To ignite the intellectual fires within each of our students. We want to stimulate in each of our undergraduates a spirit of liberal learning, a spirit that will be with them for the rest of their lives.

Let me end, then, by quoting from the remarks of Henry Philip Tappan, first president of the University of Michigan:

“Universities may, indeed, make learned men; but their best commendation is given when it can be said of them, that furnishing the materials and appliances of learning, setting the examples in their professors and graduates, breathing the spirit of scholarship in all that pertains to them, they inspire men, by the self-creative force of study and thought, to make themselves both learned and wise, and thus ready to put their hand to ever great and good work, whether of science, of religion, or of the state.”