



A Presentation by

JAMES J. DUDERSTADT, PRESIDENT

The University of Michigan

State of the
University
Address

September 24, 1990
Ann Arbor, Michigan

State of the
University
Address

James J. Duderstadt
September 24, 1990
Ann Arbor, Michigan

Introduction

Ah, it all starts again! It is always incredible how rapidly the summer disappears—and particularly this summer!

The last few months have been a time of great excitement but also a time of great concerns, a time of highs and lows. We have seen extraordinary political changes throughout the world: in the Soviet Union and Eastern Europe, in the reunification of Germany, in the transformation of old adversaries into new allies. Yet, even as this new spirit of optimism surged across our nation, storm clouds were building on the horizon. In August we encountered the crisis in the Persian Gulf, just when we thought the cold war had come to an end and peace was at hand. We sense the growing uncertainty about our nation's economy, perhaps best reflected by our growing triad of deficits: in federal spending, in foreign trade, and in the education received by our youth. We sense a host of other ills ranging from the ravages of drugs and crime to environmental impact to the plight of the poor in our society. And closer to home, we also sense growing concerns as the State of Michigan appears to be slipping once again toward a recession.

Yet there is also reason for great optimism and confidence concerning the future. Indeed, in terms of the fundamental life and purposes of the University, I believe that the institution is stronger than ever. There are many signs of this vitality, but the events of a few days in late summer brought this home to me.

Late July is normally a low-energy, even depressing, time on campus. Heat, humidity, dog days, the annual budget crunch with Lansing, the Ann Arbor Street Fair—all contribute to the summer malaise. Yet during a relatively short period of a few days in late July, a series of extraordinary events occurred:

1. Professor Francis Collins and his team

of medical scientists announced the discovery of the gene responsible for neurofibromatosis, sometimes known as the Elephant Man's disease. This was the same team that last discovered and cloned the gene responsible for cystic fibrosis and more recently learned how to insert normal genetic material into this gene to correct its defects.

2. A team of over 100 Michigan students won the national solar car race from Florida to Michigan, thereby earning the right to represent the United States in the world competition in western Australia this fall. (In late fall of 1990, this team went on to finish third in the world, beaten only by factory teams from Switzerland and Honda. It was an extraordinary performance for a group of Michigan students.)

3. It was announced that two Michigan faculty members, Sherry Ortner and Rebecca Scott, had won the MacCarther prize, used to acknowledge extraordinary creativity and excellence in our society. They were joined by a third former Michigan faculty member, Tom Holt, now a visiting professor at the University.

4. NSFnet, the major computer network operated by the University in collaboration with IBM and MCI, passed the milestone of linking together over one million users in the United States and around the world at over 500 sites. The next stage of this network, the National Research and Education Network, or NREN, now stands poised to continue this momentum with strong support building in the White House and in Congress. (In mid-fall of 1990 the University, IBM, and MCI announced the formation of a new non-profit

corporation, Advanced Network Services, Inc., to manage this "interstate highway system" for information exchange.

5. Professor Gerard Mourou and a team of Michigan scientists announced the development of the world's most powerful laser, with power equivalent to forty times the electrical generating capacity of the United States. (In late fall it was announced that Professor Mourou's team had been selected as a National Center for Ultra-fast Optical Sciences by the National Science Foundation.)

6. Teams of Michigan business students spent the spring and summer in Poland and Soviet Armenia helping these rapidly changing societies in their transition to capitalism. The Institute of Social Research, under the leadership of Bob Zajonc, announced an agreement in which ISR would assist in building a counterpart research institute in the social sciences in Warsaw. Furthermore, a similar agreement is under negotiation with the Soviet Union.

7. Professor Philip Gingerich, a Michigan paleontologist, announced the discovery of a fossil demonstrating that whales once had hind legs and feet.

8. While not much generally happens in athletics during the summer, one of our former engineering students, Bridgit Venturi, won the American Gladiator competition. Furthermore, one of our alumni and a former Regent, Bob Nederlander, succeeded George Steinbrenner as the managing partner of the New York Yankees. This, of course, was the second Michigan contribution to the American Baseball League this

year, having lent Bo Schembechler as President of the Detroit Tigers last spring.

Hence, it hasn't been a bad summer. But then this string of impressive achievements is rather typical for this remarkable University. These events provided a healthy and a happy reminder that the real business of the University is in the very capable hands of our faculty and students, and, as always, they are doing us proud.

Key Strategic Themes

Then too, during the summer there was tangible evidence of the remarkable progress the University has been making on several strategic themes:

1. The Michigan Mandate

You will recall that the Michigan Mandate is the term used to describe the commitment of the University of Michigan to become a leader known for the racial and ethnic diversity of its faculty, students, and staff—a leader in creating a multicultural community that will serve as a model for higher education and for society at large. Indeed, we do not believe we can serve this state and this nation unless our campus reflects perspectives, talents, and experiences of people of color in everything that we do.

Of course, the Michigan Mandate is not by itself a magic cure. It is not going to change the University overnight. Instead, it is a strategic plan that sets a direction and points to a destination. The Michigan Mandate has evolved over the past several years through literally hundreds of meetings seeking advice and assistance from people inside and outside the University. It is clear that the Michigan

Mandate is beginning to work. From top to bottom University decisions are now being made with the goals of diversity as a priority. In fact, across the nation other universities are beginning to use the Michigan Mandate as a guide in their own planning. There are many signs of progress reflected in the data which characterize the University for this fall.

a. Our fall statistics now reveal that we will have the largest number of students of color, 6,044, in our history, corresponding to 18.2 percent of our enrollment. This represents a 39 percent increase in the minority enrollments in the first three years of the Michigan Mandate.

b. Moreover, we now have the largest number of Black, Hispanic, Native American, and Asian students at all levels—undergraduate, graduate, and professional—in our history. For example, we have increased Black enrollments by 35 percent over the last three years to 2,358 students representing 7.1 percent of our student body. Hispanic students have increased 56 percent to 1,055 or 3.2 percent of our student body.

c. In particular, we have had the most successful recruiting year in our history, with an increase in the past year alone in this year's freshman class of 35 percent Black, 39 percent Hispanic, and 23 percent Native American. In fact, 22 percent of this year's freshman class will be students of color.

d. At the graduate and professional level we have also seen remarkable progress: 46 percent increase in minority graduate students (55 percent increase in Blacks); 36 percent in minority professional students (55

percent Black). As one example, our entering MBA class this fall will be 30 percent students of color, 20 percent African Americans.

e. Our graduation rates for students of color are among the best in the nation.

f. During the first three years of the Michigan Mandate we have added 128 new faculty of color to the University, including 62 African American faculty. We are well ahead of our schedule to double the number of faculty of color on our campus within the first five years of the Michigan Mandate.

But there are many other signs of progress ranging from major growth in financial aid to major outreach programs to school systems across the state. We have now put into place the people, policies, and programs that will increase our representation for students of color at a rate that will make the University community fully representative of the national population during the 1990s.

2. Globalization of the University

Under the leadership of Harold Jacobson and a team spanning the schools and colleges of the University, the University has developed and implemented a broad plan capable of helping our academic programs to respond to the remarkable changes occurring in the world today. We are forming new relationships with universities around the world and searching for new ways to involve our students in academic experiences overseas. As one example, teams of Michigan business students recently spent a period in both Soviet Armenia and Poland to assist these rapidly changing nations in their transition to capitalism. As yet another example of this international effort, the Institute for Social Research under the leadership of Bob Zajonc has

announced an agreement in which ISR will work with Poland to build a counterpart research institute in social sciences in Warsaw. Similar negotiations are underway with the Soviet Union for an institution in Moscow.

It is clear that we have a long way to go to take advantage of the remarkable resources of this University for international activities in teaching and research. However, as we learned at a recent summit meeting with Harvard and MIT, the University of Michigan is as well-positioned as any university in the United States to become a truly international center of learning.

3. The Age of Knowledge

The third major theme of change characterizing our society is its rapid transition toward a knowledge-intensive society in which the key strategic commodities necessary for prosperity and social well-being are educated people and their ideas. It is clear that in this age of knowledge that will characterize our future, the knowledge infrastructure of our world is increasingly provided by information technology, that is, the full range of technologies associated with computers, communication, and information storage and retrieval. This technology not only provides a lever for the mind, multiplying our talents and extending our intellectual span, but it also provides the tools of interaction that allow us to overcome the barriers of space and time and unite as students, teachers, and scholars—indeed as a people—in ways we would have never before dreamed possible.

At Michigan we have been convinced for some time that the computer has evolved far beyond simply a tool for scientific computation or information processing. It is now a robust technology, absolutely essential for the support of all knowledge-based activities and

knowledge-based organizations such as universities, corporations, and indeed, knowledge-intensive societies. Hence, it was natural that several years ago the University of Michigan would accept the challenge of embarking upon a great adventure to turn the institution into a gigantic laboratory—an experiment in the development and application of information technologies—in an effort to build a university appropriate for the 21st century. In many ways the University represented the ultimate challenge since it has long been viewed as both the prototype and indeed the flagship of the comprehensive public research university. It is a very large, a very complex, and a very decentralized institution. If we were capable of undergirding this complex, knowledge-intensive institution with an appropriate infrastructure of information technology, then surely we would be well on our way toward reinventing the nature of the university for the 21st century.

Our goal is rather simple: to build the most sophisticated information technology environment of any university in the world, an environment that would continually push the limits of what could be delivered in terms of power, ease of use, and reliability to students, faculty, and staff. We sought to design a distributed intelligent, hierarchical computing system linking personal computer workstations, mini-supercomputers, mainframe computers, function-specific machines, library access, and a host of various servers along with gateways to international networks and facilities such as the NSF supercomputer center and international data centers.

Our underlying philosophies were simple:

- a. We were determined to stay at the cutting edge, but with a very strong focus on service.

- b. We were determined to remove all the constraints, placing no limits whatsoever on student and faculty use of the technology.
- c. We recognized the importance of moving to a multi-vendor environment in which we chose whatever technology was most appropriate and most powerful.
- d. We would rely heavily on the "fault-tolerant" nature of the university community to develop an entrepreneurial spirit, a "go for it" philosophy.

Today we can see strong evidence of the impact of this effort. On the Ann Arbor campus we now have over 3,000 public workstations and well over 30,000 computers campus-wide. Further, the University of Michigan probably has the most robust networking environment of any university in the country today, including a new digital wire plant, fiber optics linkages, and an array of local area networks. The University now has one of the largest mainframe installations in the world, all networked together into an institution-wide file system, developed in partnership with IBM. Our most recent estimate is that almost 100,000 users access this system. Furthermore, the University of Michigan has become the focal point of the national effort to build the "interstate highway system" of information exchange with its management of NSFnet. Working closely with IBM and MCI the University has now expanded NSFnet to the point where it now serves over one million users nationwide. These three organizations have now established a new non-profit corporation, Advanced Network Services, Inc., designed to take NSFnet to the next stage, the National Research and Education Network.

The Resources for Excellence

In setting out these themes and putting the machinery for their implementation into place, the University leadership has had to give priority attention to our relationship with the many external constituencies that determine the resources available to the institution. This effort is beginning to show signs of success.

For example, while this was not an exceptional year from the perspective of state support, we did manage to protect higher education from the executive order cuts experienced by other state agencies and achieve a 5 percent increase in our appropriation—the first time in four years that we have been funded at a level commensurate with inflation. Further, this summer we didn't even suffer our usual bashing from the Legislature.

Our faculty continues to be extraordinarily successful in attracting research support from Washington as evidenced by the fact that this last year, for the first time in our history, our federal support exceeded our state appropriation in magnitude. We have also had a tremendous year in private fund raising, receiving over \$83 million in gifts and an additional \$28 million in pledges. This represents a growth of over 18 percent from previous years. Finally, I should also note that under the leadership of Vice President Farris Womack, the University now ranks first among all major universities in the nation in the investment return it has generated on its endowment.

The Challenge of Leadership

However, it is a good thing that all the vital signs of the University seem so strong, since it is also clear that our society, our nation, and indeed, the world are becoming ever more dependent upon institutions such as ours. Just

think of the challenges which cry out for attention: the plight of our cities; global change and the greenhouse effect; international competition, whether from the Pacific Rim or a united Europe; health care; and new frontiers, whether they be outer space or spaceship Earth. But it is clear that the greatest need of all is for leadership; and this, of course, is the University of Michigan's great contribution to America—through its teaching, research, and service and through its graduates and their achievements. Indeed, leadership is both our heritage and our destiny!

But there is another arena in which leadership is needed and that is in higher education itself. The winds of change are blowing, stirring the cauldron of higher education activity. Today many are questioning whether our present concept of the research university, developed largely to serve a homogeneous, domestic, industrial society, must evolve rapidly if it is to serve the highly pluralistic, knowledge-intensive world nation that will be America of the 21st century.

Who will determine the new paradigm for the research university in America? Who will provide the leadership? Why not the University of Michigan? After all, in a very real sense it was our university that developed the paradigm of the public university capable of responding to the needs of a rapidly changing America of the 19th century, as America expanded to the frontier, as it evolved through the Industrial Revolution, as it absorbed wave after wave of immigrants. This is a paradigm that still dominates higher education today. In a sense, Michigan has been throughout its history the flagship of public higher education in America. In a very real sense, it was in Ann Arbor that the university of the 20th century first developed.

However, perhaps it is time that in the late 20th century we once again play that role,

by attempting to define the nature of the university, a university capable of educating its citizens and serving the society of not the 20th century, but rather the 21st century.

Reinventing the University

Of course, this has been one of my themes for the past two years. I have suggested that we should look at the decade ahead as a period during which we should accept the challenge of creating a new paradigm of the university to meet the needs of a new century, to respond to a changing nation and a changing world. Indeed, I have suggested that perhaps it is time for Michigan to “reinvent” the university.

Of course, “reinvent” is surely the wrong word, although it certainly did get everyone’s attention. What I think we really need to do is to take up our historic role of leadership in higher education and once again try to define a bold vision of the future of the University of Michigan, to envision the actions we must take to get there, through intensive debate and discussion. I believe we must be bold and venturesome in considering our alternatives, creative and inventive in seizing opportunity and meeting the challenge. I am not proposing that we change our fundamental missions of teaching and scholarship. They must always remain the core of the University’s activities. Indeed, we must be concerned about preserving what is most precious and fundamental about our university and its scholarly life. Rather, I believe our challenge is to adapt some aspects of what we do to changing needs and conditions both within and outside the academy. Much of what is needed is a rebalancing, where the pendulum has swung a bit too far to one or another extreme at the expense of our basic mission and values.

During the past several years we have been taking the first steps necessary for this renewal. We have rebuilt the University leadership team. We have established new and stronger bonds with the constituencies we serve. We have articulated the themes of change we believe will dominate our society in the years ahead: the cultural diversity of our nation, the growing interdependence of a global village, and our transition to a knowledge-intensive society. But now we must join together to focus our attention on our primary endeavors of teaching and scholarship and attempt to define the fundamental academic mission of the University in light of the changes occurring in our internal and external worlds.

We should use this coming decade of transition to a new century to consider who we are and what we wish to become. We will not be alone in our deliberations. From Harvard to Stanford, Cornell to Berkeley, indeed Oxford to Cambridge, our peers are also taking up the challenge of reflection and renewal. And we should remind ourselves that as institutions universities are always changing, probably never more so than in the past fifty years as the modern comprehensive research university that we know today took shape.

The Changing Nature of Higher Education

These radical changes in the very nature of the university were driven by economic, social, political, and technological forces, in part generated within the academy and, at the same time, transforming it. Of course, this was made much easier by unprecedented growth and prosperity during the past one-half century. In post-World War II America we have become a central institution of our society with new roles and responsibilities for everything from economic development to national security, from community development to remedial

education, from health care to the exploration of space, and from the preservation of our culture to triggering social change. For intellectuals, historically consigned to the sidelines during America's formative years, it has been a heady experience to find ourselves admired, flattered, needed—and best of all—funded to levels undreamt of only a little over a generation ago. For much of their history, America's universities were protected enclaves, well enough respected but mostly unnoticed and allowed to go about our business unchallenged and largely unfettered.

What a contrast today, when we find ourselves considered a key social, economic, political, and cultural institution. But, ironically enough, our increasingly critical role has not brought with it increased prestige, public confidence, or respect. Indeed, like so many other institutions in our society, we are roundly criticized by right, left, and center, and even from within, by many faculty, students, and staff, for flaws large and small, fundamental and trivial. The titles of books by some of our critics reveal this: *The Moral Collapse of the University*, *Tenured Radicals*, *Killing the Spirit*, *Profscam*, . . . and, of course, *The Closing of the American Mind*.

It might be easy to answer and dismiss these critics one by one with logic or a righteous dismissal of any who would question our purposes and privileges. And, of course, there is much that is refutable in the recent spate of books and articles from the right and the left that question our performance and even reject the very foundation of what we do. But I believe it is a mistake to simply dismiss our critics. Rather, we should pay attention to what they say since what they all appear to have in common is a questioning of our commitment to fundamental academic values. Besides, the truth is that we can no longer ignore them even if we wanted to. They will not go away.

To the extent that their criticism is constructive, we should try to hear it. To the extent that they are wrong, we should try to answer them with a compelling affirmation, a renewal of our vision and our purposes, a confirmation of our unique community rights and responsibilities, arrived at through extensive debate and discussion among ourselves and with our many constituencies.

The Role of the President

But we should not leave questioning to others, but rather take the initiative to reflect and take stock, to consider priorities and choices, to use this period of transition to question ourselves, to reason together about our future, to ask what we are and what we must become. And, of course, in part that is the role of a president of a university. To ask the questions, to pose the challenges. In fact, I am afraid that is all that most presidents have to offer: lots and lots of questions—with very, very few answers. To be sure, the administration can lay the foundation for these discussions. We can also help to secure the resources, build the necessary public support, in addition to keeping the buildings heated and the parking lots repaired.

But when it comes to renewal, to redirection, to revitalization, it is our faculty who must lead the way. Over the course of the year ahead, I intend to move into this role of questioning and challenging, stimulating our consideration of a wide array of issues concerned with academic life. As a “preview of coming attractions,” let me give you several examples of issues I believe we must discuss.

Question 1. What is the fundamental role of the university in modern society?

What is our core value to society? If the issue is to get back to fundamentals, to reorganize in accordance with our basic values, then how and where do we begin?

Question 2. How do we produce leaders for our world of the 21st century?

Michigan's historical role has been to educate leaders for our society. But what kind of education should we provide to our students today to equip them for leadership roles in a very different nation and world than we, ourselves, have known? What should we pass on? And what should we reshape or renew or rebalance?

Question 3. Should we intensify our commitment to undergraduate education?

There is a growing national consensus that we have lost our balance and direction when it comes to undergraduate education. Recently Professor Robert Weisbuch and his colleagues in LS&A have produced an excellent report on the quality of the undergraduate experience at Michigan, going far beyond the role of merely questioning and instead suggesting a broad range of actions. I think their report offers the kind of creative vision we need, and I hope that every member of the faculty will read it and engage in the debate about its recommendations as we work together to refashion our teaching and our curriculum. This report can serve as an excellent vehicle for the University to use in addressing its commitment to undergraduate education.

Question 4. Should we re-emphasize our commitment to the quality of teaching?

What about the age-old question surrounding the proper balance between teaching and research? Here, I must confess a very special interest, since I have just agreed to a two-year term as chair of the standing

committee on education and human resources on the National Science Board. We are in the midst of a very major effort to examine the impact of research on the quality of undergraduate education. I would note that our preliminary efforts suggest that in sharp contrast to popular belief, the learning environment provided by a large research university may have significant advantages for the quality of undergraduate education. Working closely with the Educational Testing Service, the National Science Foundation has used comparative scores on college entrance and professional school examinations to develop quantitative measures of the value added provided by an undergraduate education. By extracting the dependence of this value added on other characteristics such as gender, ethnicity, discipline, and socio-economic background, it is possible to determine the correlation between value-added and institutional type. These studies have indicated that the nation's top twenty research universities score far higher in the value-added parameter than any other institutional type, even better than the small, prestigious liberal arts colleges so renowned for their teaching focus. In fact, the educational value-added parameter seems to be directly correlated with the magnitude of sponsored research performed by an institution. It also, surprisingly enough, tends to be highest in the largest institutions.

Hence, it is clear that both the size and intellectual excitement of major research universities such as Michigan, Berkeley, Harvard, and Stanford create the most effective learning environment at least for students such as those attracted to those institutions. For that reason, I believe there is no reason to be apologetic about the research performed by our faculty or the services by our professional schools. These activities all add to the educational experience of our undergraduates. This is not to say that we cannot do far better, but we should take care not to throw out the

baby with the bath water. The research and service activities of our institution provide a unique environment for high-quality undergraduate education, and we should strive to do better in using these remarkable resources in our undergraduate programs.

Question 5. Intellectual Questions

There is an ongoing debate concerning the proper balance between disciplinary and interdisciplinary activities. Many believe that the most exciting work today is occurring not within the disciplines but rather at the interfaces between them. It is certainly true that the academic disciplines today continue to dominate the modern university, whether in the areas of curriculum, resource flow, administration, or rewards. Some would even contend that this deification of the disciplines may be leading the academy toward intellectual stagnation, trapped in the sterile pursuits of increasingly specialized studies. It seems clear that increasing specialization has led many of our colleagues to tie their loyalties more to their disciplines than to their institution, thereby losing that sense of a community of scholars so important to the university. In a sense, as we attempt to build stronger and stronger programs in the traditional disciplines, we also tend to create strong centrifugal forces which tend to push the various components of the university to the periphery.

But there are also those who believe that there is a certain faddish nature to interdisciplinary research and that efforts to stimulate this activity are, in reality, just causing people to staple together unrelated projects into proposals so that they smell more interdisciplinary in nature. It is also clear that one runs the risk of diminishing the intellectual core of the institution by forcing interdisciplinary activity where it is not really appropriate, thereby, perhaps diverting badly needed

resources from the discipline and starving the core of the institution. Achieving the appropriate balance between the discipline and interdisciplinary teaching and scholarship is one of the major challenges for institutions such as ours, just as it is for the nation's research establishment.

Yet another great challenge to the research university is that of encouraging more people to work in truly innovative areas without unduly jeopardizing their academic careers. In a sense we must learn how to stimulate more of a risk-taking intellectual culture in which people are encouraged to take bold initiatives.

Question 6. Graduate Education

It is clear that we have an unparalleled opportunity to shape the academy for the future through this generation of graduate students. Yet how do we meet this responsibility?

In yet another area, let me raise the issue of why it takes so long to earn a doctorate in many fields. For example, recent statistics indicate that the average length of time from the bachelor's degree to the doctorate across all disciplines is now approaching ten years. I find this not only puzzling but perhaps a bit feudal as well. Why should it take so many more years to produce a Ph.D. than a medical doctor who will hold human life in the balance? We all know it isn't the facts or the sheer bulk of information that prepares the Ph.D. for his or her roles as a teacher and a scholar. The key is rather preparing students to keep on learning as well as to give them a thorough grounding in their field. Perhaps in taking so long, we are giving more weight to perseverance than to creativity and imagination. Does it make sense to require that all of one's young adulthood, one of the most vigorous and productive periods in a person's life be spent as a student? Perhaps we need to rethink the very nature of graduate

education, to identify those fundamental principles and methods needed by a scholar and just scrap some of the drudgery that we now insist on.

Question 7. Faculty

Nowhere is the opportunity to shape the future of the University of Michigan greater than in the hiring of young faculty. In the 1990s and early 21st century we will be facing a major number of faculty retirements, thereby providing opportunity to bring new people into the University. Yet how do we select new faculty for brilliance and creativity? Indeed, do our present traditions and practices in faculty selection allow us to select genius? How do we assess and enhance teaching ability? How do we evaluate and reward service activities? Indeed, what is the appropriate form of service in the research university?

Question 8. Intellectual Humility

There are times when we detect in a university a certain sense of smugness, complacency, even arrogance among faculty, departments, and schools. For example, sometimes I think I detect it when I hear humanists—perhaps with a touch of self-righteousness—berate colleagues in the sciences and professions for lack of humanistic values. I might point out that it is the rare scientist or professional who has not in his or her education learned something of history, literature, and philosophy. But it is the rare scholar in the humanities who is mathematically literate or conversant with the methods and principles of knowledge in the sciences, even though these are the driving forces transforming our world and, in fact, clearly influencing important cultural expression.

And lest I be accused of favoritism, let me ask my colleagues in the sciences and professions whether their work is animated by a

spirit of humanistic values that illuminates the context, meaning, and impact of what they do on human life and on our earth. Do we always make room for the expression of heart as well as art in our practice and teaching of science in the professions?

Themes for the Year Ahead

One of the characteristic traits of scientists and engineers is our extensive preoccupation with long-range planning. We spend a good deal of time thinking about the future, not simply in an effort to understand it, but to see if we can actually create it. In a sense, our key spirit is best described by the motto: "The best way to predict the future is to invent it!"

It was in this spirit that in each of the past several years we have attempted to select key strategic themes and focus our attention on them. For example, in 1987-88 the key theme was transition, a transition in the leadership of the University with a new president, provost, chief financial officer—even a new athletic director! During 1988-89 we attempted to set out several of the key themes we believe will dictate change in higher education during the 1990s, the themes of:

1. demographic change in culture diversity.
2. the evolution of the United States into a world nation in an ever more interdependent global community.
3. the Age of Knowledge we see ahead in which the key strategic resource necessary for prosperity and social well-being becomes knowledge itself, that is, educated people and their ideas.

Last year, in 1989-90, we focused our attention on rebuilding and strengthening the

bonds between the University and several of its key constituencies; in the areas of state relations, federal relations, media relations, community relations, alumni relations, and fund raising.

In a similar spirit we have chosen yet another key strategic theme for the year ahead, the theme of community. In any institution, particularly large, complex, and rapidly changing institutions such as universities, there is always a litany of commonly mentioned concerns. All too frequently we tend to dwell on the notorious "P" words: parking, police, Penn State—even the president and provost. More generally, we sometimes characterize ourselves by terms such as malaise, morale, separatism, and fragmentation. Or we dwell on behavioral issues such as substance abuse, crime, racism, sexism, vandalism. So too do other concerns tend to drive us apart such as budgets, salaries, special-interest agendas. We portray a perceived conflict between students, faculty, staff, and Regents—all in occasional conflict with the administration, of course. Further, all too often the mottos in such complex institutions are, "What's in it for me?" or "What have you done for me lately?"

I believe that these concerns and issues—while deserving of attention, to be sure—can also serve to fragment the University even further. Hence, let me suggest that we must strive to balance these with other objectives, perhaps best expressed by the "C" words: community, communication, comity, collegiality, collaboration, cooperation, coherence, concern, and caring (my wife also suggests that we should include cleanliness and chastity in this list!).

These are the "glue words," the values and principles which serve to bind us together as a community. In the year ahead I believe we must strive to understand better and take the actions which can bring us closer together as an intellectual and a moral community. We must

seek to articulate and adhere to our most fundamental academic and civic values. We must all strive harder to balance our passions to protect our rights with our obligations to accept our responsibilities to each other, to our community, for ourselves and for the future. It is my belief that we must all strive to create more of a sense of pride in, respect for, excitement about, and loyalty to this great University, and I am committed to doing all I can to build this level of commitment.

Concluding Remarks

As I warned you, I do not have answers to the many questions that we need to think about for our future. Indeed, as you have now heard I don't even begin to have all the questions. But I hope each of you and your colleagues will take up the challenge of my questions and that you will come forward with even more critical ones of your own. Our task is to sustain and build a university that represents the very best legacy we can pass on to future generations. We have an unparalleled opportunity to shape the future of our own university and because of our tradition of leadership to shape the academy for generations to come. Now the time is ripe for taking up a much larger and more basic challenge to the university community—most especially for the faculty—since you more than others hold the future in your hands.

Michigan is really a very special place. It is one of only a handful of universities capable of truly changing not only higher education but the nation and the world.

On a personal note, it has been some twenty years since Anne and I left the warmth and sunshine of Pasadena to come to Michigan. We did so in part because Michigan had what was clearly the best department in the world in my particular field of interest, nuclear

engineering. Throughout almost two decades on this campus, we have found ourselves surrounded by faculty and students who have come to Ann Arbor because they wanted to be associated with the very best, the world leader in education and research. These linked themes of leadership and excellence are what have kept us here, and they are what make this university so very special.

I believe the challenge of reinventing the American university for the 21st century is not only an exciting, challenging mission for the 1990s, but is also a mission befitting the University's long heritage of leadership. The 1990s will be a time of great challenge, opportunity, and responsibility for your University. But they will also be years of great excitement as we begin this grand adventure of determining the nature of the university capable of serving the new century.