CHANGING IN A WORLD OF

CHANGE

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THE UNIVERSITY AND ITS PUBLICS

CHANGING IN A WORLD OF

CHANGE

A series of addresses sponsored by the
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The University of Michigan
1995-1996

THE UNIVERSITY AND ITS PUBLICS

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Introduction

The essays in this collection were originally talks given to the members of Senate Assembly and others in the University community during the 1995-96 academic year. Contributions to a series titled "Changing in a World of Change: the University and Its Publics," each of them looks at the issues facing the University at the beginning of the twenty-first century from a different, and challenging, perspective. The writers, both those inside the academy and those from the world of business and public affairs, are remarkably clear-sighted about the challenges facing the research university of the future; and they are united in their understanding of the enormous pressures from and for change. That rather odd doubling of prepositions is an intentional way of suggesting the complexity of the situation the University confronts. Change is all around us: in new technology, in constantly revised expectations, in altered social arrangements and political responsibilities. At the same time, we are reminded insistently, and with good cause, that the University has not always been the most agile institution in meeting the challenges and the opportunities of a changing world. We need to respond to change, and we need to change ourselves.

One of the speakers in our series, Charles Gibson, co-host of ABC television's Good Morning America, is not represented here by a formal text. His address was more in the nature of a conversation than the others and less amenable to inclusion in a collection of this kind. But it seems important to at least sketch in the chief ideas that he developed in his presentation, not least because as a representative of the media he may be seen as a spokesperson for one of higher education's major and most articulate sources of criticism. Paradoxically, Mr. Gibson began his remarks by voicing a question often raised in University circles: Why don't the members of the media pay more attention to the work of the University?

In his view, those of us in academe should be grateful for such benign neglect. Close scrutiny, he thought, might generate in even greater abundance the sorts of questions that are already troubling to those in the University community. To illustrate his point, he turned to examples of contemporary scholarship drawn from his own field of journalism. There he found scholarly articles that were filled with jargon and altogether remote from the actual issues faced by today's journalists. The gap between the discourse of the journals and the practice of the profession was so large as to call into question in a fundamental way the uses of the scholarly writing. For Gibson, the challenge of change involves making the work of the University more comprehensible, and more relevant, to the society it serves.

When President Duderstadt first proposed this series, he referred to it (only half-jokingly) as the Big Bad Wolf Lecture Series. The point, in part, was to bring to the University individuals who would place directly before the faculty some of the major challenges arising in this era of change. None of the speakers shrank from this somewhat unwelcome task, yet it is clear that none of them sees the challenges as insurmountable. Throughout these essays one sees again and again evidence of a strong belief in the University of Michigan as an institution, in its faculty, and in its administrative leadership. The wolf of change may be threatening all of higher education and may even be especially focused on the research university, yet this institution, with its history of adaptability and its commitment to excellence, can and should position itself to face down that threat. But such a successful response to a world of change means that the University must understand its publics, enter into useful conversations with them about its future directions, and continue to demonstrate its relevance—indeed, its indispensability—to whatever future may await us.

The series was jointly sponsored by the Office of the President and the Senate Assembly.

E.J.J.

Prologue

George Brewer

Professor of Human Genetics and
Chair, Senate Advisory Committee
on University Affairs

THE IDEA WAS FIRST SUGGESTED by President James J. Duderstadt—a series of high profile speakers from various walks of life to give us their insights into change. Change in their world, change as they see it affecting the university, and the kinds of changes they perceive the university must make. Faculty governance jumped at the opportunity, because it is clear to all of us that the university must be part of the dramatic changes that are sweeping through society.

The series was jointly sponsored by the President's Office and Faculty Governance. Arrangements were made for a group of faculty to have lunch with each of the speakers, who then participated in a faculty group seminar and, at the end of the afternoon, delivered a lecture to Senate Assembly and guests. The lectures

were open to the public. Most of the time, the lecture was followed by a reception, allowing faculty and guests to meet and talk with the speakers. We are all grateful to Professor Ejner Jensen, Special Counsel to the President, for putting this series together and making all the arrangements.

The speakers assembled were indeed impressive. They ranged from television personalities to college presidents and from business executives to politicians. The lectures were excellent. Each speaker had had an impressive career, each was generally a keen observer of the human scene, and each could articulate both the changes they perceived in society and the changes they perceived universities need to make.

Speaking for myself, I felt I became more broadly informed by each speaker on the expected topics—on the changes occurring in society, their impact on the university, and possible responses on the part of the university. But for me, there was an unexpected bonus. I became aware of how much universities are responsible for causing the changes in society. In this sense, we are not just passively floating in the river, only responding to the changing currents about us, but to a significant extent creating those currents ourselves. Of course, we are not responsible for all the currents; a significant portion are directed and accelerated by external forces. Thus, we have two responsibilities. First, to learn how to adapt to the multitude of external changes and, second, to try to see that the changes we create are applied wisely in society.

Planning for Change: Transforming the University of Michigan

Photo courtesy of *The Ann Arbor News*

James J. Duderstadt
September 18, 1995

James J. Duderstadt, the eleventh President of the University of Michigan, graduated from Yale University with highest honors and earned his Ph.D. in Engineering Science and Technology at the California Institute of Technology. Before becoming President in 1988, he had been Dean of Engineering (1981-86) and Provost and Vice President for Academic Affairs (1986-1988). He is a member of the National Academy of Engineering and former chairman of the National Science Board. In 1991, he was awarded the President's National Medal of Technology and named National Engineer of the Year by the Society of Professional Engineers.

The Dialogue of the Past Year

FROM BERKELEY TO MICHIGAN, from Stanford to Harvard, from Kalamazoo College to San Diego State University, if there is a common denominator to the campus dialogue, it is the theme of change ...

- changes sweeping across our nation and around our world
- changes in whom our institutions serve and the resources available to do so
- and the changes that we must grapple with as faculty ... whether determined through careful thought and debate ... or forced upon us by a changing society

One of the most important and stimulating activities of the past year involved a series of retreats with faculty governance—both the Senate Assembly and the executive committees of the schools and colleges—designed to consider the challenges and opportunities before our University today. In these forums, we considered together a number of very important issues:

Faculty roles and opportunities
Undergraduate education
The organization of the University
The Michigan Mandate
The Michigan Agenda for Women
The state contract
Value-centered management

This is a dialogue that should—indeed, MUST—continue in the months ahead.

With the help of the Senate Advisory Committee on University Affairs, we will expand this dialogue about the future of higher education and the University of Michigan by inviting to our campus important leaders from many sectors of our society. For example, this fall we will be hearing addresses from Charlie Gibson, Harold Shapiro, and Frank Popoff.

My remarks today are intended both to provide a context for these discussions and to share with you some personal thoughts about the years ahead.

Let me give you the punch line at the outset, however.

While change may be the watchword of our times, for Michigan I believe there are other even more appropriate descriptors:

opportunity ...
excitement ...
leadership!!!

The Case for Change

As one of civilization's most enduring institutions, the university has been extraordinary in its capacity to change and adapt to serve society. Far from being immutable, the university has changed over time and continues to do so today. A simple glance at the remarkable diversity of institutions comprising higher education in America demonstrates this evolution of the species.

The challenges and changes facing higher education in the 1990s are comparable in significance to two other periods of great change for American higher education: the period in the late nineteenth century, when the comprehensive public university first appeared, and the years following World War II, when the research university evolved to serve the needs of postwar America. Today, many are concerned about the rapidly increasing costs of quality education and research during a period of limited resources, the erosion of public trust and confidence in higher education, and the deterioration in the partnership between the research university and the federal government. However, our institutions will be affected even more profoundly by the powerful changes driving transformations in our society, including the increasing ethnic and cultural diversity of our people; the growing interdependence of nations; and the degree to which knowledge itself has become the key driving force in determining economic prosperity, national security, and social well-being.

Here we face a particular dilemma. Both the pace and nature of the changes occurring in our world today have become so rapid and so profound that our present social institutions—in government, education, and the private sector—are having increasing difficulty even sensing the changes (although they certainly feel the consequences), much less understanding them sufficiently to respond and adapt.

The Mission of the University

Part of our challenge is simply to understand the nature of the contemporary comprehensive university and the forces that drive its evolution. In many ways, the university today has become the most complex institution in modern society—far more complex than corporations or governments. We are comprised of many activities, some nonprofit, some publicly regulated, and some operating in intensely competitive marketplaces.

- we teach students
- we conduct research for various clients
- we provide health care
- we engage in economic development
- we stimulate social change
- and we provide mass entertainment
  (... athletics ...)

In systems terminology, the modern university is a loosely-coupled, adaptive system, with a growing complexity as its various components respond relatively independently to changes in their environment. We have developed a transactional culture, in which everything is up for negotiation. Indeed, the real driving force behind the evolution of the modern university is provided by entrepreneurial faculty, seeking to achieve their goals and their dreams.

But, while the entrepreneurial university has been remarkably adaptive and resilient throughout the twentieth century, it also faces serious challenges as that century comes to a close. Many would contend that we have diluted our core mission of learning, particularly that characterizing undergraduate education, with a host of entrepreneurial activities. We have become so complex that few,

whether on or beyond our campuses, understand what we have become. We have great difficulty in allowing obsolete activities to disappear. Today we face serious constraints on resources that will no longer allow us to be all things to all people. We also have become sufficiently encumbered with processes, policies, procedures, and practices of the past that our very best and creative people no longer determine the direction of our institution.

To respond to the challenges and opportunities of the future, I— and most university leaders—believe that the modern university must engage in a far more strategic process of change. While the natural evolution of a learning organization may still be the best model of change, it must be augmented by constraints to preserve our fundamental values and mission. And we must find ways to free our most creative people to enable them to drive the future of our institutions.

Anticipating these challenges over a decade ago, the University of Michigan set out to develop a planning process capable of guiding it into the next century. The University leadership, working closely with faculty groups, academic units, and external advisors, sought to develop and then articulate a compelling vision of the University, its role and mission, for the twenty-first century. This effort was augmented by the development and implementation of a flexible and adaptive planning process. Key was the recognition that in a rapidly changing environment, it was important to implement a planning process that was not only capable of adapting to changing conditions, but to some degree also capable of modifying the environment in which the University would find itself in the decades ahead.

The University of Michigan's mission is complex, varied, and evolving. At the most abstract level, this mission involves the creation, preservation, integration, transmission, and application of knowledge to serve society. In this sense, the University produces not only educated people but knowledge and knowledge-intensive services such as R&D, professional consultation, health care, and economic development. Yet all of these activities are based upon the core activity of learning.

The University serves a vast array of constituents—students at the undergraduate, graduate, professional, and continuing education levels; patients; local, state, and federal government; business and labor; and communities, states, and nations. Hence, a simple mission statement for the University of Michigan might be the following:

Mission

The mission of the University is *learning ...*
in the service of the state, the nation, and the world.

And it was from this starting point that our various strategic planning groups began to develop visions and plans for our future.

The Positioning Strategy: Vision 2000

The first phase of the strategic planning effort was essentially a positioning strategy. More specifically, our various planning groups agreed on a vision for the 1990s that borrowed a phrase from the University's famous fight song, "The Victors":

Vision 2000: "The leaders and best ..."

The University of Michigan should position itself to become the leading university of the twenty-first century, through the quality and leadership of its programs and the achievements of its students, faculty, and staff.

As a result of the positioning strategy associated with Vision 2000, the University of Michigan today is better, stronger, more diverse, and more exciting than ever. Let me share with you some of the vital signs characterizing the University of Michigan, circa 1995.

National rankings of the quality of the University's academic programs are the highest since these evaluations began several decades ago. A close examination reveals that the academic reputations of our programs have increased more than those of any

other university in America over the past decade. Further, when rankings across all academic programs and professional schools are considered, four institutions stand apart: Harvard, Stanford, the University of California, and the University of Michigan.

Detailed surveys throughout the university indicate that Michigan has been able to hold its own in competing with the best universities throughout the world for top faculty. In support of this effort to attract and retain the best, the University has increased average faculty salaries over the past decade to the point where today they rank #1 among public universities and #5 to #8 among all universities, public and private.

Through the remarkable efforts of our faculty, the University now ranks as the nation's leading research university, attracting more federal, state, and corporate support for our research efforts than any other university in America.

Despite the precipitous drop in state support over the past two decades, the University has emerged financially as one of the strongest universities in America. It is the first public university in history to receive an Aa1 credit rating by Wall Street. Our endowment has increased four-fold to over $1.4 billion. And thanks to the generosity of our alumni and friends, with almost two years left in the Campaign for Michigan, we are already at 90 percent of our $1 billion goal.

- We are making substantial progress in our efforts to restructure the financial and administrative operations of the University, including award-winning efforts in total quality management, cost containment, and decentralized financial operations.

- A walk around the University reveals the remarkable transformation in our environment as we approach the completion of our massive program to rebuild, renovate, and update all of the buildings on our campuses—a $1 billion effort funded primarily from non-state sources.

- The University Medical Center has undergone a profound transformation, placing it in a clear leadership position in health care, research, and teaching.

- We have launched some exceptional initiatives destined to have great impact on the future of the University and higher education more generally, such as the Institute for the Humanities, the Media Union, the Institute of Molecular Medicine, the Davidson Institute for Emerging Economies, and the Tauber Manufacturing Institute.

- And perhaps most important of all, through efforts such as the Michigan Mandate and the Michigan Agenda for Women, we now have the highest representation of people of color and women among our students, faculty, staff, and leadership in our history. Michigan has become known as a national leader in building the kind of diverse learning community necessary to serve an increasingly diverse society.

As we approach the twenty-first century, it becomes clear that the University of Michigan has become not only the leading public university in America, but that it is challenged by only a handful of distinguished private and public universities in the quality, breadth, capacity, and impact of its many programs and activities. This progress has not been serendipitous. Rather it has resulted from the efforts of a great many people following a carefully designed and executed strategy.

But it is now clear that our success in achieving Vision 2000 is not enough. It is time to develop a bolder vision for our future—and work together to develop a strategy to move us toward this vision.

A Vision for the 21st Century: Vision 2017

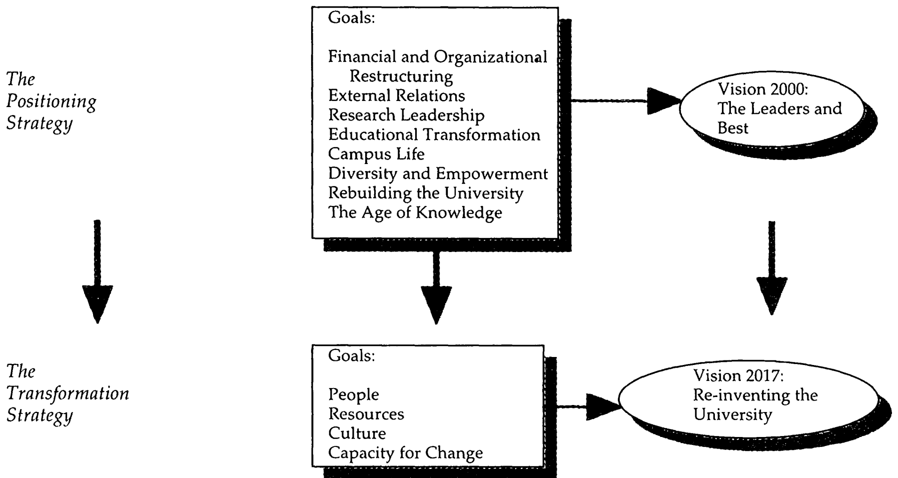
It is natural to take great pride in what members of the Michigan family—Regents, faculty, students, staff, alumni, and friends—have accomplished through the Vision 2000 strategy. Working together, we have indeed built the finest public university in America—perhaps the finest in the world. But we have built a university for the twentieth century, and that century is rapidly coming to an end. The university that we have built, the paradigms in which we have so excelled, may no longer be relevant to a rapidly changing world.

Hence, it is now time for the University to consider a bolder vision—in the language of strategic planning, a strategic intent—aimed at achieving excellence and leadership during a period of great change. This objective, termed Vision 2017 in reference to the 200th anniversary of the University's founding, is aimed at providing Michigan with the capacity to re-invent the very nature of the university, to transform itself into an institution better capable of serving a new world in a new century.

Vision 2017: Re-inventing the University

Our objective for the next several years is to provide the University with the capacity to transform itself into an institution better capable of serving our state, our nation, and the world.

This transformation strategy contrasts sharply with the earlier positioning strategy, Vision 2000, that has characterized the past decade. It seeks to build the capacity, the energy, the excitement, and the commitment necessary for the University to explore entirely new paradigms of teaching, research, and service. It seeks to remove the constraints that prevent the University from responding to the needs of a rapidly changing society, to remove unnecessary processes and administrative structures, to question existing premises and arrangements, and to challenge, excite, and embolden members of the University community to embark on a great adventure.



The goals proposed to move the University beyond the leadership positioning Vision 2000 and toward the paradigm-shifting Vision 2017 can be stated quite simply:

Goal 1: People
To attract, retain, support, and empower exceptional students, faculty, and staff.

Goal 2: Resources
To provide these people with the resources and environment necessary to push to the limits of their abilities and their dreams.

Goal 3: Culture
To build a University culture and spirit that values:

- adventure, excitement, and risk taking
- leadership
- excellence
- diversity
- caring, concern, and community

Goal 4: The Capacity for Change
To develop the flexibility, the ability to focus resources, necessary to serve a changing society and a changing world.

Although simply stated, these four goals are profound in their implications and challenging in their execution.

For example, while we have always sought to attract high-quality students and faculty to the University, we tend to recruit those who conform to more traditional measures of excellence. If we are to go after "paradigm breakers," then other criteria such as creativity, intellectual span, and the ability to lead become important.

We need to acquire the resources to sustain excellence, a challenge at a time when public support is dwindling. Yet this goal suggests something beyond that: we must focus resources on our most creative people and programs.

While most would agree with the values set out in the third goal, many would not assign such a high priority to a striving for adventure, excitement, and risk-taking. However, if the University is to become a leader in defining the nature of higher education in the century ahead, this kind of culture is essential.

Developing the capacity for change, while an obvious goal, will be both challenging and controversial. We must discard the status quo as a viable option, challenge existing premises, policies, and mindsets; and empower our best people to drive the evolution—perhaps, revolution—of the University.

Strategic Initiatives

The key approach to achieving transformations across these areas that move the University toward Vision 2017 has been to organize the effort through a series of strategic thrusts or initiatives. Each strategic thrust has been designed as a self-contained effort, with a clearly defined rationale and specific objectives.

Examples of strategic initiatives include:

- A recommitment to undergraduate education of the highest quality

- Human resource development

- The diverse university
  Articulating the case for diversity
  The Michigan Mandate
  The Michigan Agenda for Women
  Bylaw 14.06
  International education and scholarship

- Intellectual transformation
  Developing more flexible structures for teaching and research
  Lowering disciplinary boundaries
  Integrative facilities (e.g., the Media Union)

- The faculty of the future
  Definition and role of the faculty
  Broadening faculty appointments
  Alternative faculty appointment and reward policies

- Serving a changing society
  Evolution of the UM Health System
  University enterprise zones
  Research applied to state and national needs
  UM involvement in K-12 education

- Building private support (gifts, endowment, Campaign)

- New methods for resource allocation and management (VCM, TQM)

- Completion of the effort to rebuild the University's physical plant

These, and still more strategic initiatives yet to be defined and launched, will take us toward the vision of defining the nature of a university to serve a new century and a changing world. Yet, even as

we move forward, there are still very important and fundamental questions that we must address together.

Questions, Questions, and More Questions

What is the fundamental role of the university in modern society?

How does one preserve the public character of an increasingly privately financed university?

Should we intensify our commitment to undergraduate education? If so, how?

What is the proper balance between disciplinary and interdisciplinary teaching and scholarship?

Does the Ph.D. degree need to be redesigned (or even replaced) to meet the changing needs for advanced education and training?

How should we select the next generation of faculty?

How do we respond to the deteriorating capacity of the state to support a world-class research university?

How good should we strive to make our programs?

How do we best protect the University's capacity to control its own destiny?

Should the University be a leader? If so, then where should it lead?

Should our balance of missions shift among teaching, research, and service? undergraduate, graduate, and professional education? serving the state, the nation, and the world? creating, preserving, transmitting, and applying knowledge?

How do we enable the University to respond and flourish during a period of very rapid change?

Concluding Remarks

There is an increasing sense among leaders of American higher education and among the membership of our various constituencies that the 1990s will be a period of significant change on the part of our universities if we are to respond to the challenges, opportunities, and responsibilities before us. Just as it has so many times in the past, the University must continue to change and evolve if it is to serve society and achieve leadership in the century ahead. The status quo is simply not an acceptable option.

Hence, it has become clear that the challenge of the years ahead will be one of institutional transformation. The task of transforming the University to better serve our society and to move toward the visions proposed for the century ahead will be challenging. Perhaps the greatest challenge of all will be the University's very success. It will be difficult to convince those who have worked so hard to build the leading public university of the twentieth century that they cannot rest on their laurels and that the old paradigms will no longer work. The challenge of the 1990s is to reinvent the University to serve a new world in a new century.

Put another way, our challenge, as an institution, and as members of the University community, is to work together to provide an environment in which such change is regarded not as threatening but rather as an exhilarating opportunity to engage in the primary activity of a university, *learning*, in all its many forms, to better serve our world.

The transformation of the University in the years ahead will require wisdom, commitment, perseverance, and considerable courage. It will require teamwork. It also will require a high energy level, a "go-for-it" spirit, and a sense of adventure. All of these features have characterized the University during past eras of change, opportunity, and leadership. After all, this is what the Michigan spirit is all about. This is what it means to be "the leaders and best."

The "New" University?
The "New" Liberal Education?

Harold T. Shapiro
October 23, 1995

Harold T. Shapiro has been, since 1988, President of Princeton University. After undergraduate training at McGill University and graduate study at Princeton, he began his academic career at the University of Michigan, where he served with distinction in a number of positions. He was Professor and Chair in the Department of Economics, Vice President for Academic Affairs, and (from 1980 to 1987) the tenth President of the University of Michigan.

Introduction

IT IS ALWAYS a special excitement and pleasure to be back at the University of Michigan, and I want to thank President Duderstadt and those courageous, if foolhardy, faculty who extended the invitation. I am rich with memories of remarkable events and extraordinary people arising from my years on this campus. Indeed, this room at Rackham has its own special memories for me not only because of the many SACUA meetings I attended but of other special events such as Karl Popper's Tanner Lecture and the annual Economic Outlook Conference, which my colleague and friend Saul Hymans and I ran for so many years. I remarked when I left the University of Michigan that part of my heart would always remain here, and this has certainly been one of my better predictions. Moreover, my admiration for the University and its faculty has only grown with time and distance. I want to thank, therefore, all of those who have helped this special place become an ever more distinguished center of education and scholarship. On the other hand—before we all lose our grip on reality—I do not recall during my time as president ever losing—in Michigan Stadium—a football game to Northwestern!

Let me now turn to my rather enigmatic topic; namely, "The 'New' University? The 'New' Liberal Education?." I mean the title to suggest a set of rhetorical questions that would focus our attention on two broad topics. The first of these topics concerns the extent of the transformation we might expect—over the next decades—in the nature of the university. That is, as we look ahead, do we see a radically new university emerging? In view of the startling pace of events, the almost bewildering pace of scientific and technological discovery, the associated developments in computing and telecommunication, and the emerging questions of difference, meaning, and truth—to name just a few—can the university in the form we have come to love and understand it continue to meet its evolving civic obligations, or will it be replaced with quite a different type of organization that is better able to provide education and/or research services to a world that is, once again, being transformed?

The second of my topics focuses on undergraduate education, which remains, in my judgment, the single most important function of universities and the area that could most benefit from both some new ideas and some renewed dedication. This is true, I believe, for the University of Michigan, and it is certainly true for Princeton. Michigan, of course, has large and very significant programs in graduate/professional areas, but I will not speak today of the many challenges in this area. Moreover, I will not speak directly about the critical on-going relationship between research and teaching since so many others address this issue almost daily. Nor will I speak of the critical issue of the costs of higher education or the impact of major changes in federal science policy. These and many other things will impact higher education, but I focus elsewhere for the moment.

One final comment, however, before I address the first of the two topics I will speak to. I hope I will cease giving speeches and/or writing papers about American higher education overall. In America, higher education is made up of such a diverse set of institutions that there is very little that is useful to say—beyond mere description or sermonizing—about the system as a whole. Indeed, I have increasingly found that the most useful analyses often focus on a single institution where one can be fully sensitive to a particular institution's history, culture, and other singularities. However, it would be presumptuous of me to talk about the University of Michigan, and you certainly do not want to hear me talk about Princeton. My remarks, therefore, take a middle ground and are addressed to some of the challenges being faced by the American research university.

The New University

Let me turn now to the first of my rhetorical questions. Is a radically new and transformed university about to arise from the ashes of the contemporary American research university? Let me announce my conclusion swiftly and then turn to provide some perspective on my reasoning. My rather tepid and unheroic conclusion is twofold. First, there will be many important changes in those research universities that manage to sustain a leadership

position in the next decades. These changes will include changes in pedagogy, changes in educational objectives, changes in the academic organization of the faculty and in the distribution of authority and responsibility. This rather mundane forecast should not surprise anyone, as it is almost inconceivable that the research university could retain its vitality or fulfill its evolving civic responsibilities without change. The critical challenge in this respect is to insist on thoughtful change that sustains what we believe are our most important values and commitments. Even so, change, as always, will not be easy, and it is certain to be alienating to some of those who have strong, meaningful, and understandable attachments to an earlier world. This is difficult for many of us because those who feel alienated by change are very likely to be close colleagues for whom we have great respect and affection. On the other hand, we all recognize that the contemporary American research university has remained a vigorous social institution because it is the successful product of at least two major transformations in the last century.

Perhaps a little historical perspective is helpful and may provide a useful introduction to the second aspect of my twofold conclusion on this topic. As you all know, the western university—as a distinctive social organization—was recognizably established only in medieval time, and, though it stands today many times transformed from its medieval profile, it still owes a good deal of its social organization and legal form to a number of rather remarkable innovations introduced in twelfth century Europe (e.g., openness, diversity, independence, privilege, community—etc.). Thus, despite all the changes, the contemporary university is, in a very meaningful sense, a recognizable offspring of its medieval ancestor. This leads me directly to the second part of my conclusion on the emergence of the "new" university.

The second part of my twofold conclusion may seem even less audacious and less courageous than the first; namely, the transformed university that will emerge over the next decades will certainly be recognizable to all of us. In particular, it will continue to be characterized by a geographically coherent community of students and scholars engaged in conversations across the genera-

tions aimed not only at understanding our own cultural inheritance and that of our neighbors, but at developing skills, molding character, and engaging (with others) in the pursuit of a better understanding of our natural world and the human societies that inhabit it.

In short, "hanging out on the Internet" will be a very useful complement to, but not a substitute for, what I call a geographically coherent community of learning. There is no doubt that the "Internet" (which I employ as a metaphor for a whole series of new systems) and all that it represents will change a lot of what we do and how we do it, but it will not, in my opinion, replace the intellectual growth possibilities—for student and teacher—inherent in a geographically coherent community of learning. Nor will it become as helpful a platform or incubator for important new ideas. There are, of course, thoughtful observers who believe otherwise, and it is important for us to address their points of view. I leave this for another moment.

A Detour Into Controversy and Independence

I would like to take a bit of a detour now to consider why controversy has always surrounded the evolution of educational institutions and how such controversy relates to a university's autonomy and independence. In the most general sense one may think of education as a means—comprised of a network of social and curricular arrangements—by which society provides each new generation with many of the capacities, beliefs, and commitments necessary to achieve important societal objectives. At any historical moment, the particular array of institutions of higher education (and their associated curricula) that society supports reveals a great deal about society's views regarding such important issues as: who should receive the most advanced education; the importance of traditional values; the importance attached to innovation and new ways of thinking; the most important sources of knowledge and wisdom; the value placed on particular cognitive abilities; the most highly prized virtues; and the nature of the broad hopes and aspirations of the society itself. Since these issues are critical to all communities, it is hardly surprising that there has always been

considerable controversy regarding the appropriate nature of the formal and specialized institutions of higher education that society sustains as well as the nature of their curricula.

Over time, of course, the functions and responsibilities of higher education have changed. Indeed, as the historical record makes clear, no fact of education has proved exempt from the impact of social change. Furthermore, the on-going accommodation between the various aims of education (old and new) has generated not only a continuing level of controversy, but also new educational arrangements (curricula and institutions). Many of the issues underlying these controversies are never fully settled but only temporarily resolved—in order that one may act—while exploration of new approaches continues. One of the perennial themes in these discussions, for example, has been the appropriate balance between "liberal," "vocational," and "professional" education. Indeed, this issue appears in ancient Greek discussions, in medieval times, and ever since! Another hardy and continuing issue has been the value of critical and speculative philosophy versus the authority of traditional values.

The critical point is that in an environment that is changing, the university will inevitably be drawn into debates about the relationship of its existing programs and commitments to the changing needs of society. We cannot and should not avoid such discussions. In particular, we cannot view such a dialogue as undermining our traditional values and autonomy. Rather, it is through this dialogue that our most important traditional values, such as autonomy, can be reinforced. Indeed, autonomy, as opposed to slavery, implies a level of responsibility and thoughtful responsiveness that make such a dialogue imperative.

Given the current pace of change in the national and global environment and the complex contemporary mission of higher education, certain tensions are inevitable in the evolution of these institutions. For example, among the current tensions are:

- The tension between current circumstances of higher education and its evolving aspirations.

- The tension between the university's role as educator (requiring closeness and responsiveness) and its role as a critic (requiring distance and skepticism).

- The tension between specialization and integration.

- The tension between the demands for scholarship, the demands for education, and the demands for other services the university provides.

- The tension between the increased demands for diversity and increased demands for community.

Consequently, the "right" profile of university efforts and programs in all areas will remain elusive and controversial.

All in all, the American research university—to say nothing of the western university—has been a remarkably durable and adaptive institution. Although always the focus of criticism and some disappointment, these institutions have continued to be valued by western societies, sometimes as society's best hope for change and sometimes for reassurance regarding traditional moral commitments. Notwithstanding the many revolutions that seem to characterize contemporary life, such as the burgeoning of telecommunications; the development of a so-called politics of difference; the transformation of the nation state; the redistribution of people, capital, production facilities and products around the earth's surface; and the perceived diminution of moral certainties, it is unlikely, in my judgment, that evolving events will bring about the demise of universities as we know them.

Despite their many shortfalls; despite changing demographics, changing expectations, changing public and private priorities; despite a somewhat deteriorating physical infrastructure; and despite a sometimes shaken faith (both internal and external) in their potential civic contribution, I believe these institutions will, once again, prove capable of adapting in a manner that reflects an understanding of the current environment. As I survey our cultural environment, I see few institutions with such continuing potential

to deliver new social dividends to society, and, therefore, there is little reason to put them on the endangered species list. Universities may have to do this with less; they will certainly have to conduct a searching reexamination of their programs in the light of contemporary realities. But I believe that their unique potential for learning that centers around the power of the person-to-person encounter, their demonstrated capacity for largely peaceful interaction across many cultural divides, and their continuing ability to challenge the familiar will make them indispensable assets for the future I now see unfolding.

The New Liberal Education?

Let me now turn to the second of my two rhetorical questions which relates to the future shape of a liberal education in the "brave new world" that is emerging. I have begun to ask myself if we need a new vision of a liberal education or whether the vision that developed at the turn of the century will continue to serve us well. In this arena, some historical perspective is quite necessary, and I want to begin by sketching—very briefly and with a very broad brush—the historical evolution of undergraduate liberal arts education.

For purposes of our discussion this afternoon, I divide the entire history of higher education into only four principal curricular periods! This seems to me to be the minimal number of divisions that enables a coherent story to be told. Briefly, these eras are: the classical period (Greek and Roman higher education); the period of scholasticism (the high Medieval period); Renaissance humanism (the 16th through the 18th centuries); and the modern period, which began about a century and a half ago.

As higher education evolved through these four periods, two key points are worth recalling. First, the transformation of the undergraduate curriculum from one era to another was seldom a case of good triumphing over evil, or a more powerful educational ideology replacing a less forceful one. More often, these changes represented the adoption of new undergraduate programs to meet a fresh set of civic responsibilities generated by a quite different era. For

example, as Grafton and Jardine have pointed out so effectively, the victory of Renaissance humanism (a literary education committed to preserving a canon of classics) over medieval scholasticism is best explained, perhaps, as the victory of a form of education more amendable to European society of the 16th century. Although the humanists did bring into being new scholarly tools in the understanding of literary texts and the ability to imagine the development of modern literature, it is also important to understand that their approach to undergraduate education was a better fit with the newly emerging European elite, characterized by relatively closed governing circles and a distinct lack of enthusiasm for debate on political ànd social issues. The elite needed an indelible cultural seal (i.e., a shared cultural experience), and the humanist curriculum provided it. It was, as others have observed, a victory of art and literature over society and polity.

In terms of the four curricular periods noted above, undergraduate education in America initially grew out of the Renaissance/humanist curriculum which had replaced scholasticism as the framework of undergraduate education in both Britain and continental Europe. As the classical period, with its attention to rhetoric, various components of the Septem Artes Liberales, the great literary epics, and a small bit of logic, had given way to scholasticism's focus on the dialectical and logical analysis of both Christian and pagan texts, so scholasticism itself, as noted above, had given way to the deeper literary tradition that the colonists endeavored to transplant to the frontier of western civilization. This tradition, we should recall, placed very little emphasis on speculative and critical philosophy, preferred rhetoric over logic, and focused on the aesthetic qualities of the text and a particular sense of virtue, the good citizen, and moral philosophy—the latter to be interpreted as moral control, obedience, and deference to authority.

The curriculum of the colonial college, therefore, was designed to sustain a certain understanding of medieval and Renaissance learning to create, within the student body, a personal piety and a passing acquaintance with the Bible, classical languages and literature, and Renaissance art and literature that was considered suitable for America's cultural elite. Innovation and critical think-

ing were the last things on anyone's mind, and pedagogy in the colonial college remained, as noted above, dominated by a rhetorical tradition of rote learning and recitation that proved, in the classrooms of colonial America, rather numbing.

In the post-Civil War period, the need for change in American higher education became ever more apparent. America was changing, new scholarly disciplines were emerging at a rapid rate, and the world of scholarship and education was being dramatically transformed. A revival and transformation of higher education had begun in Europe (particularly Germany) in the 19th century, where new ideas regarding the unity of research and teaching and academic freedom had begun to take hold. This followed a period of growing faith in the primacy of reason and cognition, in the potential and desire for material progress, and in the responsibility of educated individuals to engage in independent and innovative thinking. In America, this translated into an understanding that the capacity to learn and develop new ideas (i.e., to innovate) had become an immensely practical requirement; national leadership would now require more people to receive an advanced education in a broader range of areas. The historically innovative notion arose that society could benefit, economically and in other ways, from institutions of higher education that, for the first time, were centers for free, open, and thoughtful debate (concerning society and science); deliberative and critical practices that were noncorrosive; and the development of new knowledge and understanding of all kinds.

As the modern American university assumed its current form, not only was there a great clash between humanism and "professionalism" for cultural leadership of the university and its undergraduate curriculum, there also was a loud clamor about the growing gulf between scholarship and the perceived needs of the undergraduates. Concern among many faculty regarding the loss of cultural and disciplinary common ground brought about by the growing enrollment, the expanding scope of the university curriculum, the increasing specialization of the faculty and the freedom of students to select majors was genuine and has remained—for various reasons—an issue until this day.

Nevertheless, the emergence in this period of institutions devoted to education in the context of a constantly renewed search for new ideas must be considered a rather radical and distinctive achievement. At its best, the university became a place for dialogue between generations, between cultures, between past and present, and between alternative approaches to understanding. For the most part, it is only the contemporary university that has finally recognized and incorporated in its curriculum the inevitability of complexity, ambiguity, and the need for competitive views in most of the important issues confronting humankind and scholarship. However, it is able to retain its coherence as an academic community through its shared beliefs in the open pursuit of truth and understanding, a commonly held set of rational and humane standards to govern the modes of scholarship, and the ultimate value of the products of the mind.

Liberal Education—Do We Need a New Idea?

For almost two thousand years, the idea of a liberal education has attracted the attention and loyalty of thoughtful educators, scholars, and citizens concerned with higher education. Indeed, few educational ideals have attracted more adherents, sustained more controversy and had more "staying power" than the concept of a liberal education. For many centuries, educators, scholars, and citizens across a broad range of the political, social, and cultural spectrum have urged colleges and universities to meet their civic responsibility of providing a curriculum that fulfills the imperatives of a liberal education. This consistent devotion to an educational ideal is all the more remarkable given the enormous and continuing growth in our stock of knowledge, changing notions of what the word "liberal" implies, the ever-shifting nature of society's educational objectives, and the rather more startling fact that even at a particular point in time there has rarely been much agreement regarding what educational program or programs the coveted label of "liberal education" implies. My objective here is to remind us of the historical legacy surrounding this concept and to suggest some criteria that contemporary curricula aimed at a liberal education should satisfy.

The only organizing ideas that stand steady and clear over these two millennia are that the aims of a liberal arts curriculum are 1) to achieve important educational objectives that are complementary to those of a purely technical or narrowly professional education—e.g., the better understanding of our cultural inheritance, a better understanding of oneself, an examination of the foundations of mathematics and science, the clarification of what we mean by virtue,—and 2) to help create a certain type of citizen. In practice, of course, professional and liberal arts curricula certainly overlap, and notions regarding the "right" type of citizen are in a constant state of flux.

Even the Greeks, who are credited with discovering the basic components of the liberal arts, had several different educational strategies that focused variously on literature, the search for truth and new understanding, and the training of effective civic leaders. The articulation in Roman times of the Septem Artes Liberales (grammar, rhetoric, logic, arithmetic, geometry, music, and astronomy) did not lead, even at that moment, to the adoption by Roman educators of a coherent curriculum based on these subjects. Rather, Roman society included a number of approaches to higher education with greatly different emphases. For Thomas Aquinas in late Medieval Europe, a liberal education included, in addition to the Septem Artes Liberales, natural philosophy, moral philosophy, and metaphysics. As time passed, however, additional objectives for a liberal education were developed, such as the freeing of the individual from previous ideas, the disinterested search for truth, the pursuit of alternative ideas, and the development and integrity of the individual and of his or her power of reason. In many ways, of course, this expansion of the agenda of liberal education was a natural development as society's educational requirements expanded and evolved over time.

Thus, the classical societies of Greece and Rome, the European societies of the Renaissance, 19th century Europe and Britain, and both colonial and contemporary America have all had their own quite distinct understandings of the purposes of a liberal education and/or the role of advanced or higher education in achieving particular educational objectives. Not surprisingly, these tensions

usually reflected quite disparate and contending social and cultural commitments (e.g., Hellenism vs. Christianity, reason vs. revelation, etc.) as well as distinct views of both the source of new wisdom and understanding and the role of institutions of higher education. The principal point to remember is that, while the concept of a liberal education goes back to classical times, so too does the controversy over its structure and purposes. Indeed, alternative approaches to a liberal education—in theory and practice—have been a constant source of tension in educational thinking for two millennia.

Despite this history of controversy, change, and evolution, the pursuit of this amorphous ideal remains an article of faith in much of higher education. This continuing "devotion" has been bought at a certain price; namely, we have continuously expanded the constellation of ideas the term accommodates. Thoughtful educators now use this venerable term—liberal education—to include everything from a narrow focus on the "old" or "new" canon of "great" texts to a serious study of any and all aspects of liberal arts subjects. The catalogue of liberal arts subjects is, of course, now greatly expanded beyond the trivium and quadrivium and includes all of the burgeoning sciences. It must also be acknowledged, however, that at least within academic circles the incorporation of the theoretical and experimental sciences into a liberal arts curriculum remains incomplete in the sense that the literary and philosophical traditions—which themselves displaced a near monopoly held by the classical curriculum—still seem to retain a special stature. Nevertheless, the label "liberal education" may cover educational curricula in which the institution prescribes students' choices as well as curricula which leave all such choice to the individual students. It incorporates all sorts of pedagogies which distribute responsibility and initiatives for learning in quite different ways between student and teacher. It embraces approaches ranging from those that emphasize breadth of knowledge to those that emphasize depth of understanding in a relatively narrow area. All this in the name of the true liberal education!

Thus, while the concept of a liberal education continues to reign as an article of faith that seems to unite many of us, it often masks many important differences in educational philosophies and

objectives. Perhaps our chief folly in all of this has been to shape our rhetoric on this issue as if there were no history of change and controversy on these issues and only one proper curriculum for everyone. There never has been a "right" curriculum, and, given rapidly changing circumstances and aspirations, the best we can hope for in the future is a continued exploration of the various possibilities.

The Criteria

I do not claim, nor should anyone else claim, to have identified the most appropriate liberal arts program. Such agreement has never existed, even for brief moments of time in particular places. The best I can do is try to identify some characteristics of a "liberal education" that I believe are very important for our time and place.

My own prejudices in this matter are to associate a liberal education with the particular educational needs of contemporary western liberal democracies. In this respect it is critical to take cognizance of two rather unique characteristics of liberal democracies. First, we should recall, as Ernest Gellner has pointed out, how atypical it is to have sustained—over a number of centuries—a society with a great plurality of institutions which oppose and/or provide a balance to the power of the state. Moreover, these institutions are protected and often financially supported by the same state. The idea that the state could support institutions that prevent its own monopoly over power and truth from becoming too extreme is, in an historical sense, quite novel. In this situation it is not only essential to search continually for the right balance between constraining the state's power and authority and yet enabling it to do its work (e.g., arbitrating competing interests, keeping the peace), but to find appropriate venues and programs for training a large cohort of thoughtful, responsible, and independently minded leaders capable of heading the multiple institutions which share power.

Second, although many would claim that the historical legacy of a liberal education emphasizes our common humanity rather than the unique needs of particular individuals or groups, the actual development of western liberal democracies has granted increasing impor-

tance and recognition not only to the needs and desires of individuals and small family units but to the constantly escalating demands for group rights—demands which have made it increasingly difficult to attain the common agreements which any coherent community requires. Both of these special conditions of western liberal democracies require, in my judgment, particular approaches to a liberal education. They include the following:

- The need—in order to better understand ourselves and contemporary times—to discover and understand the great traditions of thought that have informed the minds, hearts and deeds of those who came before us. After all, despite the distinctiveness of ourselves and our own times, we are a part of a larger—and deeper—stream of human experience. Our particular cultures may be only historical contingencies, but we ignore them at great peril to our continuing potential. Whatever the shortcomings of our predecessors—and there were many—and however limited the surviving remnants of their efforts, they remain a great source of inspiration and understanding as long as we do not deify any particular aspect of this valuable inheritance.

- The need to free our minds and hearts from unexamined commitments (authority of all types) in order to consider new possibilities (including new "authorities") that might enhance both our own lives and—more broadly—the human condition and build our sympathetic understanding of others quite different from us. In this latter respect, we cannot allow freedom from authority to lead to excessive demands for individual gratification that are anti-social and leave no place for individual sacrifice for the common good.

- The need to prepare all thoughtful citizens for an independent and responsible life of choice that appreciates the connectedness of things and peoples. This involves the capacity to make moral and/or political choices that will give our individual and joint lives greater and more complete meaning, an understanding of how the world works, the capacity to distinguish between logical and illogical arguments, and an understanding of the inevitability of diversity. This is especially important in a world where

individual responsibility and internal control are increasingly needed to replace and/or supplement the rigid kinship rules, strict religious precepts, and/or authoritarian rule which have traditionally served to order societies.

It would also be helpful if a liberal education encouraged and enabled students to distinguish between self-interest and community interest, between sentimentality and careful thought, between learning and imagination, and between the power and limitations of knowledge.

I recognize that these particular needs and/or criteria are very closely related to a set of notions and institutional arrangements I associate with liberal democracy. In particular, they would encourage both an empathic understanding and critical assessment of the different social arrangements and cultural experiences designed to give meaning to our individual and community lives. In my view, therefore, "liberal education" like liberal politics must be committed to tolerance and freedom, and to the greatest extent possible open to the broadest stream of human ideas and experience. However, just as the radical idea of the completely neutral state is unattainable, so is a curriculum free of normative content, and just as a liberal democracy needs some notion of the good life to pursue, so a liberal education must be grounded in some educational commitments and values (e.g., tolerance and self restraint).

We must also recall that, in speaking either of liberal education or of liberal politics, it is necessary to distinguish between the ideal and its actual practice. A liberal education—despite its current aspirations to openness and inclusiveness—has often been an instrument of exclusion, well beyond the necessity imposed by the need to make some choices. The same is clearly true of liberal politics.

Both liberal politics and liberal education must be tempered by two critical understandings. First, the human condition—whatever we might wish—places some limit on the common agreements that can be reached by a group of citizens (however well-meaning) with different ideas about what is most worthy. If this is true, perhaps some voices will inevitably feel suppressed, since the values

needed to ensure the survival of the enterprise altogether do not allow at the end of the day for the full expression of any and all sets of moral commitments. Consequently, liberal thought faces an inevitable tension between commitment to tolerance and the liberty to pursue without restraint one's own individual identity on the one hand and the restraints that are necessary to ensure the survival of the community on the other hand. Despite the hopes of the Enlightenment, voluntary consent, reason, and truth have not yet completely replaced coercion. I have no easy answer to resolving these tensions. The best we can do is to continue to explore the boundaries created by the issues that separate us.

The curricular criteria I have suggested are tied to the fundamental liberal notions of the autonomy and importance of the individual and of finding new and better ways to both respect differences and reject domination. This itself is not a commitment that is shared by everyone. For me, however, it remains—together with the judicial and political system and the many civic organizations designed to give it operational meaning—the greatest guarantee of our capacity to most fully realize and give sustained meaning to our human aspirations.

Conclusion

What then should we all look forward to? What challenges will confront us? What satisfactions await us? In conclusion, let me try to answer these questions at least for those limited aspects of the American research university that I have spoken of this afternoon. My sentiments are as follows:

1. Change, once again, is upon us, and although we should recognize that many may be alienated by those transformations that need to happen—and this will be a real loss for all of us—it is critical to our ability to continue to serve the society that supports us, provided the change is thoughtful and preserves our capacity to meet our most central characteristics and commit-

ments.

2. When we visit the university of our grandchildren and—if we are lucky—our great-grandchildren, we will find it not only recognizable but admirable.

3. It is time to rededicate our efforts to undergraduate teaching and rethink the liberal arts curriculum in a much more creative way. In particular, we should stop calling everything a liberal education.

4. We at research universities may have to do with less, but we can remain one of society's most important and exciting institutions, and university faculty positions can remain one of the most attractive positions in our society for those committed to the education of young people and the products of the mind.

For a distinguished university like Michigan, this type of challenge has been successfully met before, and I have little doubt that given the continuing distinction of your faculty and student body this tradition of successful leadership will continue.

Managing Change—
The Challenge of Leadership

Frank Popoff

December 4, 1995

Frank Popoff joined the Dow Chemical Company in 1959 and has spent his entire career with that company. He was Chief Executive Officer of Dow from 1987 to 1995, when he relinquished that post in accordance with company policy. Since 1992 he has been chairman of the Board of Directors. A graduate of the University of Indiana, he has served that institution in a variety of roles: he is a member of the Business Dean's Advisory Council and Director Emeritus of the Indiana University Foundation.

THIS PAST OCTOBER at a business conference, I was asked to give a commentary on three questions:

- What leadership skills and qualities will distinguish successful corporations leading into the next century?
- What makes a company "world's best" and how do companies become "world's best" and stay there?
- What major challenges do global companies/corporations face in establishing and building their businesses in developing economies?

Substitute "university" for "corporation" or "company" and substitute "societies" for "economies" and it seems that we come to the central theme of your agenda—"Changing in a World of Change."

One answer serves all three questions—it's successfully "managing change."

- Managing change will distinguish successful enterprises leading into the next century.
- Managing change will make institutions "world's best" and help them stay there.
- Managing change is the major challenge facing organizations in establishing and building their presence and influence around the world.

But the acceptance, implementation, and control of change prove to be quite a challenge. Said Woodrow Wilson, "If you want to create enemies, try creating change."

Accepting Change

Managing change continues to be job #1 for industry and business. (I suspect it's also job #1 for everyone else.) But the Total Quality movement taught us that we haven't been doing as well as we should in managing change. The fact that TQM is much about managing change under the banner of continuous improvement caused it to appear as a threat to large portions of those organizations seeking TQM. (Actually, people didn't mind change as much as being changed.)

By the way, it shouldn't surprise you that the more successful the organization the more enamored it is of the status quo and resistant to change.

Conventional wisdom is an adversary of change, as I'm reminded when I review a few of my favorite quotes. For example:

- From Lord Kelvin in 1895, "Heavier than air machines are impossible."

- From Charles Duell, director of the U.S. Patent Office, in 1899, "Everything that can be invented has been invented."

- In 1905, Grover Cleveland observed, "Sensible and responsible women do not want to vote."

- Said physics Nobel laureate Robert Millikan in 1923, "There is no likelihood that man can ever tap the power of the atom."

- And in a lighter vein, "Who the hell wants to hear actors talk?" that from Harry Warner in 1927.

- My all-time favorite may be from a *Business Week* edition in 1979, "With over 50 foreign cars on sale here, the Japanese auto industry is not likely to take a big slice out of the U.S. market."

Successful institutions and their managements can be quite defensive about the systems and concepts they've put in place, to the

delight of those seeking to unseat them through new and innovative concepts. An issue of *Fortune* a few years ago featured IBM, General Motors, and Sears on the cover and labeled them "dinosaurs," attributing their decline to their inability to adapt and change—their subsequent revival has been a testimony to change.

More recently, once-successful change agents like McDonald's, Nike, Apple, and Saturn have proven to be vulnerable to imitators and new competitors. Impressed with their past success, they are again learning that they must continue to "reinvent" themselves.

The key for those who succeeded in adopting TQM was to communicate:

- the need for change,
- the measures required,
- their individual, as well as collective, impact, and
- an invitation to the entire organization to be part of the process.

The last element was key—it offered the option of being a participant or a bystander in the process of change. Given that choice, people joined in. The so-called "frozen middle" of the organization was the ultimate test of the process—if they joined, success in acceptance of the concept was ensured. But accepting a concept doesn't make it work, and the critical implementation phase of managing change and TQM proved the most difficult and most rewarding to those who persevered.

That brought two concepts well known to us all into play—management by objectives and the organizational matrix. In the 1950s, "management by objectives" taught us the sequential nature of management—that planning precedes organization, which is followed by execution (now called implementation for reasons of political correctness) and control. That's not too profound, although many of us would like on occasion to dispense with planning and "just do it" or, worse, plan eternally and never get to implementation.

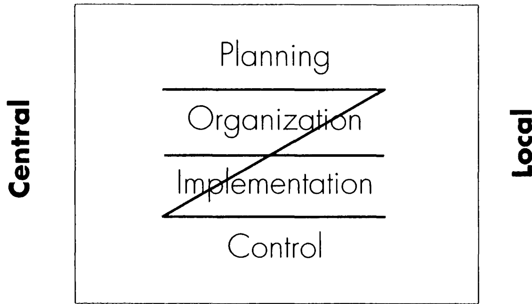
The second concept, the organizational matrix, proved somewhat more daunting. Dow has evolved—as have most industries that face complex objectives—into a three-dimensional matrix. Its elements are functional, geographic, and business in nature. In our earliest incarnation, when life in industry was simpler, we were a functional organization with researchers researching, producers producing, sellers selling, accountants accounting, and financiers financing in a company with a narrow, simple product mix and with one geographic market, the United States. Technological and commercial success resulted in new products and markets, then exports, and ultimately production, research, and development overseas. The first stirrings of the global company were in evidence. Ask a Dow employee today "Who are you?" and the answer comes back containing the three matrix elements as in "I'm a plastics salesman in Thailand, an agricultural products field researcher in Brazil, or a hydrocarbons production superintendent in Holland."

But because we encourage each element of the matrix to be strong and world class in its core competencies, with its own functional, geographic, and business objectives, failure to properly align these objectives can cause friction, sometimes to the abandonment of the initiative or the strategy in question. Flawed implementation has proven far more of a problem than flawed plans. Said differently, an aligned organization can generate great progress from a less than perfect plan by self-correction on the fly.

If strategy is seen as a destination, course, and speed model, speed is becoming ever more important. Speed is rightfully being referred to as the currency of the '90s. But the tug for dominance in a matrix system, regardless of how well intentioned it may be, can cost us speed or prove to be paralytic.

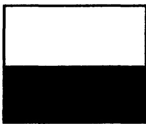
Success is best addressed by focusing not on who dominates the processes of planning, organization, implementation, and control but how these processes are shared and their interrelationship.

Functions of Mangement



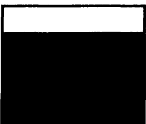
The solid lines between each function of management must be subordinated to a diagonal line, which gives discipline by identifying the dominant input, but also allows or even demands an input by the subordinate participant. The old adage of "think globally and act locally" is also reconfirmed. Attitude also plays a role in matrix management, division of authority, and policy administration.

Policy Administration



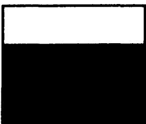
Simple-Minded Approach

- Every situation is seen as black or white
- Forces doing some things which don't make sense



Incompetent Approach

- Attempt to see most situations as gray
- Everything becomes negotiable and expensive
- Negotiation is rewarded and therfore increases
- Very poor business practice



Ideal Approach

- Gray is recognized but not encouraged
- Promotes disciplined, responsible behavior
- Conservative bias

Finally, if change is to be managed, it must be controlled if you initiate the change or at least its impact must be controlled if the change is a product of external factors. Healthy organizations, regardless of current success, anticipate and welcome change and even create it for their benefit.

Again, looking at a destination course and speed model, we come to see control as a continuous feedback on all three variables allowing course changes, variations of speed, and even recognition of changes in destination. The speed of feedback will be a function of the acceptance by the organization of the concept, program, or strategy that is being promoted. The candor of the feedback will be a measurement of how well the process is being managed. It will measure if the change that is being implemented is supported, tolerated, or sabotaged. It will be an endorsement or a denial of the effectiveness of management.

I hope by now no one is asking "What's all this to do with the University of Michigan?"

- You have a vision—to be the "Leaders and Best."

- You have core competencies that set the competitive standard for many of your disciplines and faculties.

- Your resources, financial and operational, are the envy of many.

- You have considerable good will from your stakeholders—the public, government, students, faculty and staff, alumni and friends.

- You're consistent with your tradition, delivering results to your stakeholders.

- You have been very well managed.

Your challenges are equally impressive. Their enormity is a direct function of the importance of education. Of all the economic, social, and political issues we face, it still seems that education and

the development of our people are at least the first among equals. Education is our enabling technology because an educated, trained, and enlightened public liberates the solutions to all our other challenges. H. G. Wells captured that when he said, "Human progress is more and more a race between education and catastrophe."

The past decade has seen business and industry playing in a tougher global league. Market access is more universally available as trade barriers come down. The costs of raw materials and energy are harmonizing. Capital and technology are transferred to an unprecedented degree. Privatization and deregulation of state enterprises and monopolies are commonplace. The consumer is king in an environment where work and information flow around the world with incredible ease. All this is good news if one can play and win in today's up-tempo game.

Clearly, education is also stepping into a tougher league. While K-12 education has been receiving a great deal of needed attention, several relatively new realities are very much in evidence in higher education. Traditional methods of teaching and learning and the institutions that provide them are being challenged for the role of delivering higher education and training by employers focusing on skills as much or more than on academic credentials. Information transfer technologies have reshaped and relocated the classroom. The demographics of the student body have changed as the need for new skills and their economic benefit become more evident in the workplace.

The historic departmental approach to education is being reshaped by an interdisciplinarian address to teaching and research in recognition of the integrated workplace and world the student faces on graduation. And, as you well know, graduation is not necessarily the sole desired outcome of our students for their education and instruction. That's captured in the comment, "being a student isn't so bad when you find out you can't get a job." Proficiency in multiple skills and the ability to integrate them are becoming as important as in-depth knowledge of a single skill. And in all this, competition has come to education as much as it has to any other element of the economy.

So, as in industry, market forces are reshaping education, and three factors seem to be instrumental in the need for the re-engineering of higher education. Technology is not only reshaping what is taught in terms of new skills and disciplines, but also how we learn as the new demographics of the student body and the information superhighway collide with the traditional classroom. Privatization has come to campus as public institutions rely more and more on tuition and private funding over public appropriations to achieve their aims. Vocationalism is with us as students exhibit the attributes of the classic consumer and demand outcome-based education, value, and a yield on their investment in the form of a job upon graduation.

Extreme positions on these and other issues serve no real purpose. It's as impractical to discard what has served us well in teaching and learning as it is to deny new tools and technologies as they become available. And all this on a budget! Cost control through Total Quality Management and the reengineering of educational work processes are every bit as important as tapping new sources of income during the privatization of the academy. Failure to retain the benefits of a comprehensive education with its emphasis on a lifetime of learning is as reprehensible as an unwillingness to accept the fact that education must also render the student employable. Clearly, balance—not polarization—between the competing elements of the several debates progressing in education is in our collective best interest.

In closing, I'd like to venture an opinion—that only through a strategic alliance with all of its stakeholders will the U of M continue its tradition of greatness. The survival of the institution is not in question—this university will be here after we're all gone—but what it will be is still to be determined:

- It can be the premier research university at a time when research universities are at risk.

- It can be an unparalleled testimony to the freedom of truth when others fall to political correctness.

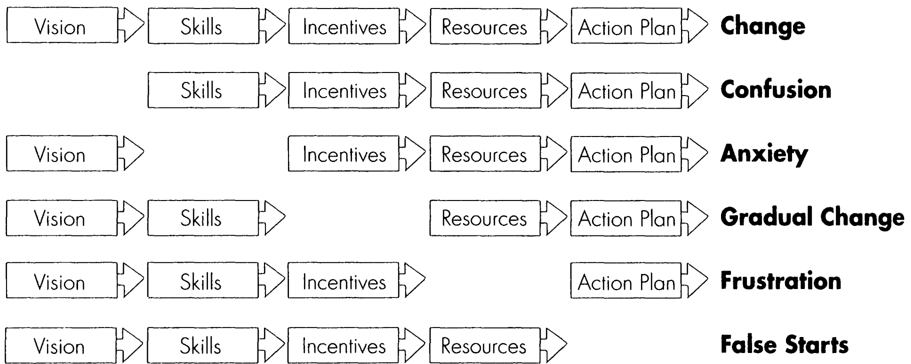
- It can prosper through its address to effectiveness and efficiency when diminished state and federal funding and continuous cost shifting plague others.

- It can possess a contract with the nation, this state, our faculty, and our students based on outstanding value received.

- It can build an alliance with its stakeholders that voices to all who would govern, direct, and lead the university an imperative to put aside individual agendas and develop and fulfill a great university's vision for the century ahead.

And it all starts with building sufficient trust to define, accept, implement, and manage change.

Managing Complex Change



Here at Michigan, vision, combined with skills, incentives, resources and a plan of action, can produce enormous progress through change. I'm ever mindful of the comment, "In times of change, it's the learners that will inherit the earth, while the learned will find themselves beautifully equipped for a world that no longer exists."

The Changing University: Faculty and Tenure

Steven Olswang
January 22, 1996

Steven Olswang is Vice Provost and Professor of Educational Leadership and Policy Studies at the University of Washington. He holds degrees from Northwestern University (B.A., 1968), the University of Illinois (J.D., 1971), and the University of Washington (Ph.D., 1977). Professor Olswang has written widely on legal issues in higher education. In 1994-95 he held a J. William Fulbright Academic Administration Fellowship and was Visiting Fellow of Wolfson College, Cambridge, and Visiting Professor at the University of Reading.

IN 1890, the mother of Leland Stanford, Jr., Jane Stanford, wrote to David Star Jordan, president of her son's namesake university, and told him Professor Ross "should go." Professor Ross was a respected scholar and economist at Stanford University. Unfortunately for Professor Ross, he also believed in Socialism, and advocated and defended those in the labor movement. And so Professor Ross was terminated. As a result of that action, seven additional faculty members from Stanford University chose to resign in protest. One of those professors was Arthur Lovejoy, who subsequently became a central player in the creation of what we now know as the AAUP—the American Association of University Professors.

That organization can be credited for developing and publishing the first true policy statement codifying academic freedom and tenure. Of course, academic freedom and tenure did not start in the United States. In seventeenth century England, a college tutor held his position as a property interest, not as an employee. Because it was a property interest, it could not be removed except by a judge. In the nineteenth century, the concepts of Lernfreiheit and Lehrfreiheit—freedom of inquiry and freedom of teaching—were integrated faculty rights for those appointed to teach in the German university. These two concepts carried forward into the structure of the faculty employment relationship in American universities.

Tenure, though, is an American word. In the 1915 iteration of the AAUP policy statement, tenure is introduced into the structure of faculty employment.

> *University teachers should be understood to be, with respect to the conclusions reached and expressed by them, no more subject to the control of trustees, than are judges subject to the control of the president with respect to their decisions; while, of course, for the same reasons trustees are no more responsible for, or to be presumed to agree with, the opinions or utterances of professors, than the President can be assumed to approve of all the legal reasoning by the courts.*

Federal judges, under the United States Constitution, are appointed with lifetime tenure, so the concept of faculty tenure is born from a purely American heritage.

What is academic freedom in higher education? Academic freedom is a philosophy. It's a set of norms; it's a set of goals. It is that concept that says that faculty members shall have the freedom to exercise their intellectual expression and pursue inquiries without fear of retribution or punishment. Tenure, on the other hand, which was created to protect academic freedom, is a legally protected employment structure. It constitutes part of a faculty member's contract of employment. It is a conditional contract of employment; it is not unlimited. And, in institutions of higher education which are funded by a state, the University of Michigan among them—not adequately funded of course—it is a property interest protected by the Fourteenth Amendment of the Constitution. "No state shall deprive a person of life, liberty, or property, without due process of law." As tenure provides an expectation of continued employment, it is recognized through decisions of the Supreme Court of the United States as a property interest which may not be removed without pretermination due process.

Due process is a concept which is well defined in law as "all the process that is due." It is a concept that is flexible, and the protections provided by the due process guarantee vary depending on the level of possible property deprivation. When we think about the responsibilities of faculty for grading students and for decisions about whether or not they should remain enrolled for academic performance reasons, those decisions affect a student's property interest for which due process is required. But due process in that situation is satisfied by informing the student of impending failure and providing the student an opportunity to respond. Of course, the due process requirements are a little more stringent when the issue is the removal of the property interest we call tenure. It requires notice: telling a faculty member what he did wrong, providing an opportunity for a response to be heard before a tribunal of the faculty member's peers, and guaranteeing that a decision will be made by a person in authority who is impartial, normally the president or board of trustees or regents. A much more involved system of due process.

I noted earlier that tenure is a "conditional" contract. It's conditioned both for causal and for non-causal reasons. There's an expectation that to retain one's property interest in tenure (remain employed as a professor), one will remain competent; one will act in a moral or ethical manner; one will do her job as assigned; one will be able, both physically as well as mentally, to do that job; and generally one won't be in jail—convicted of a felony. In the negative sense, these are bases for removal of tenure: incompetence, neglect of duty, immorality, incapacity, or conviction of a felony. It is also conditioned upon non-causal events, events that are not personally related to individual actions but which can still form the basis for termination of the tenure contract. Financial exigency and program elimination are the two most commonly accepted non-causal bases to remove tenure. That is, it is inherent in the concept of tenure that so long as the institution is solvent, it can support the appointment, or that so long as the program of instruction to which tenure is placed remains, the institution must honor the tenure commitment. If funds are no longer available to support the appointment, or the program of instruction is discontinued, tenure can end.

Academic freedom and tenure have some traditional, classic protections attached to them. They protect faculty members in their classroom speech and allow them to determine how they shall teach, so long as the material is related to the topic of the class assigned. They protect faculty members in their freedom of association. In the older days of required loyalty oaths, which are now in place in only very few states, faculty members were dismissed for failure to declare their allegiance to the state and nation. Faculty are protected when making external statements from fear of retribution from the administration, so long as those statements are on matters of public concern and are not disruptive to the functioning of the university. And faculty are generally free to evaluate students and have their evaluations be respected and upheld. Those are the general protections of academic freedom and tenure.

What is it today about the higher education environment that is changing, such that these treasured concepts of academic freedom and tenure can be at risk or subject to reexamination? Let's explore

some of the things that are different now. Let's call these the "change factors," those factors that are affecting the way faculty work and are affecting our institutions. More broadly, what is different today than in 1915 when tenure formally entered our environment?

First would be funding. In 1915, there were primarily three funding sources supporting public and private institutions of higher education. Private institutions relied primarily on their endowments or their benefactors. Institutions of public higher education had little in the way of endowments; their primary funding was from the state. The state assumed the responsibility for funding higher education for their citizens. Tuition and fees from students contributed, but not enormous amounts. Industry was not a factor, except in so far as it provided endowments for an institution. Today, on average, less than 40 percent of the revenue that comes to public institutions of higher education is from either state resources or tuition. It's gone from 100 percent to 40 percent. Sixty percent of public institutions' budgets, particularly at major research universities such as the University of Michigan, comes to the university restricted in very serious ways. Faculty members generate grant and contract income. Hospital and patient fees are dedicated to support faculty, clinical services, and the operations of hospitals. Auxiliary enterprises, restricted sales income, housing and food services, and athletics, for example, all produce dedicated revenue. More and more, endowments are restricted in purpose. Donors like to see their names on buildings, they like to see their names attached to professorships. So the sources of funds that support the general undergraduate and graduate education purpose of the university are much more limited. They represent less than half of an institution's budget.

Access and demand. In 1980, three million students graduated from high school. In 1994, 2.5 million students graduated from high school. That number is down by a half a million students in just 15 years. Obviously one's region affects the demand, the access, and the student profile. Some states, Washington for example, are in a state of growth, predicting the need for 30,000 more higher education seats in the next 15 years. New Jersey cannot say the same

thing. Michigan is pretty much at a level state of demand. But overall in the United States, student numbers are going down. This raises serious questions about overbuilt systems of higher education and their need for new resources.

Faculty distribution. If we think about colleges in the early twentieth century, faculty were primarily in liberal arts fields: the arts, the sciences, the humanities, the social sciences. Today colleges are much more diverse. The focus is on the professions, the student demand is for programs that lead to jobs. Has tenure locked us in to supporting fields that no longer garner students, and has it prevented universities from hiring in areas where students want to study?

Accountability. To whom are faculty and institutions of higher education accountable? Parents who pay the fees? Students who come for an education? The legislature which provides funds? The governor who dictates the policy of the state? In reality, universities are accountable to all these groups who expect to see an outcome for the money invested as opposed to the expansion of knowledge which is what faculty view as their primary role. Universities have traditionally been unable to demonstrate their effectiveness.

Teaching vs. research. As scholars, faculty have a simple answer to the conflict. Teaching and research are the same. It is the faculty's responsibility to bring the most recent and current knowledge to the classroom; this is what makes the best teachers. But that's not the perspective outside of academia. Why are faculty not spending more time in the classroom instead of spending their time doing research? Look at the faculty in the community colleges; they're in the classroom much more. Certainly we are not saying community college students are getting an inferior education, because universities admit them as transfer students. The issue of how faculty spend their time (faculty workload) is changing the nature of the research university's environment for faculty.

And one last change factor: The elimination of mandatory retirement in institutions of higher education. Why is this a relevant change factor? In studies that were performed before the

enactment of the amendments to the Age Discrimination in Employment Act in 1986, the prospective view was, except in major research universities, that there would be no impact on faculty retirement decisions because of the elimination of mandatory retirement. There would be no impact on faculty age profiles. Faculty will retire, just as they always have. These studies used data from some states that had eliminated mandatory retirement before it was federally required. In the University of Wisconsin system, for example, the data showed if you were in Eau Claire or Oshkosh, faculty members tended to retire at the same age on average even with the elimination of mandatory retirement. But not at the University of Wisconsin-Madison, where faculty tended to stay beyond age 70. The current data, and it's only two years since most institutions have eliminated mandatory retirement, indicate that faculty are indeed delaying retirement. The effect is bimodal; that is, those who choose to leave are retiring early, but those who don't are staying longer, beyond age 70. What this means is that there are inevitably fewer opportunities to hire replacement faculty. It also raises serious questions of performance and accountability and whether tenure is still worthy of being retained.

With these change factors in mind, many of which are externally imposed—not within an institution's control—what are the potential effects on tenure and academic freedom in the future? Well, one impact may be the need to institute longer probationary periods before tenure is awarded. Standard practice is that the probationary period for junior faculty should be six years, with a mandatory review of performance for promotion and tenure before the end of the seventh year of appointment. We are not in 1915, and knowledge and competition have expanded exponentially since then. In the sciences, if you look at hiring patterns, post-docs are no longer a year or two. They're four and five years. A potential faculty member has to have publications to even get a job interview. We are de facto extending the probationary period as opposed to facing the issue directly. Is ten years (as opposed to six years) a better time line for determining whether to extend a faculty member a lifetime contract (tenure)?

Performance reviews/post-tenure performance reviews are being instituted. There are a number of states and university systems that have mandated post-tenure reviews. While there is not much data out there about current practices, we do know that post-tenure reviews take a lot of time and effort—diversion of faculty time—to judge whether a colleague should remain, should be helped, or should be congratulated. That is time away from what we know is already 60, 70, and 80 hour weeks that faculty put in to do their academic job. So there are negatives to post-tenure review, but there are positives, too. If the goal is to ensure that colleagues are performing adequately throughout their career, isn't it worth the collegial effort it takes to review them, whether those reviews are triggered by an evident deficiency or whether they're systemic on a periodic basis for everyone? Faculty are not immune to being evaluated once they have tenure, despite the objections voiced by tenure traditionalists. Since maintenance of competence is a condition to retain tenure, mandatory post-tenure reviews do not change the nature of tenure. This is probably the biggest issue being faced around the country right now.

Different or alternative appointment structures to tenure are evolving. At both the Universities of Arizona and Minnesota, Regents recently debated whether they would ban tenure. It's a discussion that inevitably leads to finding legitimate alternatives to guaranteeing employment security and keeping the academic profession attractive. Five-year renewable contracts, for example, are already used in some places as alternatives to tenure.

Program reductions, instead of program eliminations, are being added to the list of bases for removal of tenure. I was honored to spend a few months in England last year on a Fulbright Fellowship studying the tenure system there. In 1988, under the Education Reform Act, it was generally perceived that tenure in English universities was eliminated. My research shows that's an overstatement. If you were hired in an academic position with tenure in an institution of higher education in England before November 27, 1987, you were not subject to removal for reasons other than cause. What was added in 1988 were more bases for the removal of tenured faculty members. Faculty still had tenure, but could be

removed for (and the term is wonderful) redundancy. Redundancy is defined very broadly. It includes financial exigency, program elimination (both of which we've had in the U.S. concept of tenure for years), program reduction, program reallocation, financial problems, and change in program emphasis. Do we really need to offer the Ph.D. in every field? If we don't, under the current tenure system, we are unable to reduce the number of tenured faculty in those programs. In England, under the 1988 Reform Act, removal of faculty for program reduction or program change is possible. This is a time of limited resources. If universities are going to move ahead to expand into new fields, that means that other fields must shrink, and institutions will require the flexibility to internally redirect resources.

You can't read the most recent higher education literature without knowing that teaching is, all of a sudden, important. Students actually care about how faculty teach. The technological age of distance learning is upon us. Faculty have to learn new techniques and methodologies. In partial response, some institutions are turning to dual track faculty systems—the teacher vs. the researcher. Universities, of course, have had those dual systems (contrary to AAUP policy) for many years. We have the lecturers, whose only role is teaching, and they generally are appointed on renewable term contracts. And we have the researchers, whose primary job is research. Either these differential hiring structures will expand, or institutions will have to adjust their reward systems to support excellence in faculty teaching on a level equal to the way they value research publication.

Clearly, funding is the greatest change factor. How many commitments have universities made for tenure with the expectation that state and federal money will always be there, or with the expectation that there will always be enough position recaptures from retirement or turnover to pay for our faculty commitments? Rumor has it that there's going to be less federal money around, and states are under tremendous pressure to fund prisons and other social services needs. It is inevitable that funding resources will, at least partially, decline. The ability of an institution of higher education to grant lifetime employment—tenure—requires reexamination.

We must protect the traditional principles embodied in academic freedom, but recognize that the fixture of tenure as we previously knew it may not be the only answer for faculty security. If colleges and universities don't meet these challenges themselves and address the nature of the tenure contract, it is clear that legislators, governors, and those who provide our support will step in and change it for us.

Higher Education in a Time of Change

Paul C. Hillegonds
February 19, 1996

The Honorable Paul C. Hillegonds, Republican from the 88th District, is speaker of the House in the Michigan Legislature. He graduated from the University of Michigan in 1971 with a degree in political science, earning election to Phi Beta Kappa. In 1985 he received the Distinguished Service Award from the Association of Independent Colleges.

THANK YOU, President Duderstadt, for your kind welcome. Never did I dream while sitting through some of my lecture classes here at the University of Michigan, that one day university professors would be on the receiving end of my remarks.

As intimidating as that thought is to me, I feel honored to meet with you today: to thank you for opening doors of opportunity for me and countless others who have studied on this campus, and to offer the following observations based on my legislative experience, observations that I hope will initiate a dialogue between us on the condition of higher education in our state:

- First, Michigan's fiscal structure—how state tax dollars are raised, dedicated and allocated—places state support for higher education at risk in future years.

- Second, this fiscal uncertainty will become more pronounced as legislative term limits take hold in Lansing.

- Third, the information age, in which customer demand for assembly line goods and services is diminishing, will place even more pressure on universities to define carefully their missions, and adapt to change more quickly.

- Finally, and this point comes from my heart, in a society where there is growing demand for highly technical, specialized training and a politically-correct student body and work force, may this university not forgo its commitment to the virtues of merit and a liberal arts education.

Fiscal Uncertainty

From 1989 to 1995, state corrections costs increased 72%. Medicaid—health care for the poor—experienced similar, annual double digit increases during the same fiscal period. In contrast, support for higher education institutions rose only 18.5%, compared to a 19% hike in the consumer price index—essentially a no growth budget.

This bad news becomes worse when viewed in the context of our state fiscal structure. Consider the governor's proposed state budget for the 1996-97 fiscal year, beginning this October 1. Of the recommended $30.3 gross state budget, only $8.2 billion is general fund discretionary spending which the legislature must prioritize. Within that general fund budget, Governor Engler has proposed $2.3 billion for health care programs, $1.36 billion for corrections, and $1.37 billion for higher education institutions.

You may find some consolation in the fact that Governor Engler's 1997 prison expenditures represent only a 3.5% increase, the lowest growth rate in 20 years, compared to a proposed 5% hike in higher education spending next year. But the following facts point to our universities' tenuous position in the state budget: 1) The high percentage of state revenues that are constitutionally or statutorily dedicated to specific spending purposes limit the funds available for higher education, funds which are entirely discretionary and subject to the annual appropriations process; 2) Within the general fund budget, higher education faces stiff competition from high growth, politically sensitive priorities for health care and prisons; 3) Over 50% of general fund spending is dependent on economically-sensitive income tax collections, leaving universities even more vulnerable during periods of recession; 4) Federal budget-balancing efforts, however necessary, will place more pressure on state programs such as Medicaid. In fact, Governor Engler's proposed 1997 budget assumes that President Clinton and the Congress will agree on a welfare/Medicaid compromise. If such an agreement cannot be reached, lawmakers will have to cut next year's recommended general fund spending by an estimated $300-$500 million.

The Impact of Term Limits

To the fiscal uncertainties, add the issue of legislative term limits.

In 1992, Michigan voters amended the constitution, limiting the service of state representatives to three two-year terms and state senators to two four-year terms. The House is now in the second of the three terms since the constitutional clock started ticking.

What effect will term limits have in the House? I expect that there will be about ten new members in the 110-member House after this year's election. Add the 15 new members elected in 1994, and that means come January, 1999, some 80 to 85 of the 110 representatives will be sworn in as freshmen legislators.

Because of term limits, I appointed four first-term members to the powerful Appropriations Committee at the beginning of this legislative session. Should those four be re-elected and desire to remain on the appropriations panel, in 1999, they will be the only committee members with four years' experience in overseeing a $30 billion-plus state budget. The other members will have served two years or less, as they tackle complicated spending decisions during the first few months of the new legislative session.

Moreover, most future House leaders and committee chairs will likely serve in those roles for only two years, during their third and final term of service. In effect, they will be lame ducks on the very day they are chosen, with reduced consensus-building powers.

Legislators' general fund priorities, such as crime and punishment and health care, will continue to compete for limited state taxpayer dollars. Term limitation, by 1999, will remove from the House of Representatives nearly all of the presently-serving members who understand and support issues important to state universities. Whether such representatives will be replaced by persons who are equally or more greatly committed to higher education remains to be seen. It is reasonable to assume that incoming members of both parties will be less persuaded by appropriations precedents. And both political parties are now positioning themselves to be "tax cut" advocates, a trend which, in addition to state constitutional limitations, will probably take tax hikes off the legislative table for the foreseeable future.

Adapting to Change and Defining Missions

With public funding pressures, in a fast-changing world, universities cannot be all things to all people, and will have to continue adjusting—and quickly.

Business and industry are demanding employees that are highly skilled and able to adapt in a highly competitive, worldwide marketplace. For example, the recently-enacted federal telecommunications reform is going to speed the already-rapid advances in how we communicate. The result, I believe, will be the constant redesign not only of how and where we work, but also the education delivery system.

Throughout the evolution of society, it has been necessary for universities to continue defining and refining their missions. But unlike private business entities, universities are more collegial in nature, receiving input and feedback from the faculty on issues that are of concern to them. This can be a slow, laborious process, one that will have to move at a faster pace.

A May, 1995 article in The Chronicle of Higher Education highlighted a recent study by two Vanderbilt economics professors. The two surveyed more than two hundred education institutions to find out how quickly they had adopted thirty specific innovations. The professors found that the average time between the adoption of an innovation by the first institution and its adoption by half of the others averaged more than 25 years.

The article cited evidence from private industry showing that new technologies are adopted more quickly when managers have relatively high levels of education. The authors noted:

> *Because colleges and universities have more managers with Ph.D's than any other business, one might expect prompt adoption of successful innovations. However, the rate shown by the study is much slower than the average of eight years that University of Pennsylvania Professor Edwin Mansfield found for twelve important innovations in the coal, steel, brewing, and railroad industries—none of which is well known for embracing new technology at the first opportunity.*

Recently, Richard J. Mahoney, CEO and Chairman of the Board of Monsanto Corporation, wrote an article about the need for universities to change the manner and pace of the way they do business:

> *In my nightmare there were storm clouds on the horizon. Customers—sometimes called students—were complaining they had been ignored... Two irresistible forces, rising costs and faltering revenues, are obliging universities to set new priorities... What did corporations do to reinvent themselves? First they decided their basic mission, then they disposed of or de-emphasized non-core businesses to focus on their strengths. Second, they took on the internal bureaucracy. Third, they formed alliances with other companies to share expertise, cut costs, reduce risk and increase rewards.*

Time does not permit me to apply each of Mr. Mahoney's reinvention strategies to our Michigan universities, but consider two of his points:

Customers—sometimes called students—are being ignored. During the past decade, Michigan universities that have experienced the greatest percentage increase in undergraduate student enrollment are those where professors, not graduate teaching assistants, are providing the classroom instruction. Grand Valley enrollment in the ten-year period has increased 120 percent; Saginaw Valley is up 47 percent; and Western Michigan has realized a 25 percent increase. All other state-supported universities grew by single-digit rates.

There are several factors at play here, but I believe a case can be made that institutions providing low tuition rates and high professorial contact will enjoy greater student enrollment growth—that students will seek more personalized classroom experiences that are as rich as the coffee blends found at expresso cafes, tasty as specialty beers sought out at the growing number of brew pubs, and unassuming and intimate as small city, minor league baseball. The analogies may seem trite, but higher education is not immune from marketplace trends and preferences.

The State of Michigan is rich in research-based institutions, a circumstance which is both a blessing and a curse, if one accepts the premise that citizens and their elected representatives share a growing concern about universities perceived to have a research-

above-all-else agenda. I accept that premise, based on the rhetoric by candidates for university boards that resonates at state political party conventions, based on legislation introduced in states where universities are not autonomous, mandating that faculty be required to teach a certain number of hours in undergraduate classrooms. And based on mainstream opinion columns such as the one written by Thomas Sowell, which appeared on yesterday's Detroit News op ed page: . . .

> *One of the reasons why even pricey and prestigious universities have many of their undergraduate courses taught by graduate students rather than professors is that professors prefer it that way. It gives the professors more time to hustle research grants and turn out esoteric papers, rather than be bothered teaching elementary stuff that bores them. . . .*

To broaden their base of support in the legislature, universities need to address themselves to the improvement of undergraduate education, by making professors more accessible to students in the classroom.

Deciding the Basic Mission. What are your missions as a university? You are a premier research institution. You have an outstanding law school, and world-renowned medical and other research centers. But rising costs, tighter federal and state resources, private sector trends such as capitated, managed health care, coupled with higher tuition rates will force this great university to refine its missions—missions that must build on your best and commit you to improve, or dispose of, the rest.

The Virtues of Merit and a Liberal Arts Education.

As you wrestle with the questions of mission, permit me to suggest a couple of areas I hope you will not forgo:

First, there is the growing public frustration in general and parents' concern in particular about the education too many of our children are receiving at the K-12 level. It is this frustration that drives the charter schools and public schools of choice debate in the legislature.

What stake will our universities have, not only in training able teachers, but in becoming more engaged in the improvement of your farm team: our K-12 public schools? Why is so much time and money spent on remedial education at the college level, when those levels of learning should have been attained at the K-12 level?

As in states like California, there is a growing political movement in Michigan to repeal affirmative action laws. As Speaker of the House, I have resisted this rush to judgment in order to consider the question, what do we mean to repeal?

If affirmative action is about preferential treatment based on factors other than merit—in other words, numerical quotas based on race, ethnicity or gender—then we need to worry about evidence that such policies divide our communities, undermine the self-esteem of beneficiaries, and contribute to troubling trends in higher education such as grade inflation.

If, on the other hand, affirmative action is about aggressive efforts to expand the pool of qualified minority and economically disadvantaged applicants from which merit selections are then made, I believe we need more, not fewer affirmative action programs.

Partnering with local school districts to improve K-12 education is harder work in the short term than establishing quotas, but it will reap longer-term benefits for our universities and society.

Second, I believe the higher education community must continue to struggle with how our teachers and schools can be held accountable for our children's mastery of learning, using evaluation tools such as standardized testing, while encouraging what is an ever-increasing necessity today: the honing of critical thinking skills.

Last semester I taught a political science course to undergraduates at Hope College, a distinguished liberal arts institution. I was sorry to learn what many of you experience daily, that too many students started the semester primarily concerned about what they needed to know to pass the mid-term and final examinations.

Here let me endorse the importance of a strong liberal arts curriculum in our K-12 schools and institutions of higher learning. To me, a liberal arts education is about the joy of learning from the great ideas and experiences of the past, and applying those multidisciplinary lessons to the challenges of today and tomorrow. It is about using critical thinking skills necessary for integrating information and adapting past solutions to new sets of problems. It is about respect for different intellectual paths toward truth—the kind of respect that is so greatly needed in our increasingly uncivil society.

Third, as you refine the university's missions, it is essential that you continue and enhance your work within communities, both with public and private entities, providing services and allocating resources that will enable your advocates to tell lawmakers: "By our applied scholarship and research, we are returning tangible value to our state in exchange for the tax dollars we are receiving."

Gerhard Casper, President of Stanford University said it well:

> *Unless we (the university community) make our case for our work in its entirety and pursue it rigorously and efficiently, the world may tire of us and develop new approaches that it will consider adequate substitutes.*

Uncertainties in federal and state funding, rapid technological advance and marketplace and political pressures are demanding change in our higher education system—change in what we learn, how we learn it, who does the teaching, and how we can do all of this in a more focused, efficient manner.

The University of Michigan is a great institution. But as with all great institutions today, it cannot take the future for granted.

Thank you for allowing me to share these thoughts with you.

Epilogue

Some ironies are too obvious to miss. Only days after delivering the initial speech in this series, President Duderstadt announced—on September 28, 1995—that he would be stepping down from the presidency of the University of Michigan on June 30, 1996. His departure from that leadership role means that the University's capacity to manage change will be strongly tested in the months just ahead and in the years to follow. A number of factors encourage the belief that the University of Michigan can meet the challenge of change, both the particular challenge of replacing a successful and dynamic leader and the more global challenge of adjusting to external changes during a period of internal transition.

First among these factors is the choice of Homer Neal as Interim President. Currently Vice President for Research, Dr. Neal is a seasoned and thoughtful administrator who is well prepared to lead the University through a successful transition to new leadership. Second is the Michigan tradition of decentralized governance, which means that we have in place in the schools and colleges a remarkable team of Deans who are both energetic and far-sighted. They know how to cope with change, and while they recognize that it brings great difficulties, they recognize that it brings great opportunities as well. The third factor is the legacy of Jim Duderstadt. During the years of his presidency he has focused the work and the thinking of the University community on the future and on the room the future provides for invention and creative response. Thanks to his leadership, the University of Michigan is well positioned to accept—and accept successfully—the challenge of "changing in a world of change."

E.J.J.

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