



*The Challenge for the 1990s:
Transforming the University*

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Executive Summary

There is a broad consensus both among leaders of American higher education and on the part of our various constituencies that the 1990s will represent a period of significant change on the part of our universities, if we are to respond to the challenges, opportunities, and responsibilities before us. Indeed, many institutions have embarked on major transformation agendas similar to those characterizing the private sector. Many even use similar language as they refer to their efforts to “transform,” “restructure,” or even “re-invent” their institutions.

Anticipating these efforts to some degree, as early as the mid-1980s 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 and academic units, 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 is not only capable of **adapting** to changing conditions, but to some degree capable as well of **modifying** the environment in which the University would find itself in the decades ahead.

In an earlier essay, *Vision 2000: The Leaders and Best*, we set out an agenda for the 1990s aimed at positioning the University of Michigan for a leadership role in higher education for the next century. This agenda is framed through a set of specific goals, the “26 Goal Plan,” that provide measurable objectives for the institution.

A second essay, *Vision 2017: The Third Century*, was quite different in both nature and scope. It attempts to articulate an array of visions of the University for the longer term. In particular, it considers the various changes characterizing our society and higher education, and then uses this context to examine a set of possible visions or paradigms for the “university of the twenty-first century.” It further suggested a particular vision for the University of Michigan that is built both on a foundation of our traditional values and a recognition of the challenges and opportunities that we will likely face in the decade ahead.

This third essay focuses both on the issue of process and the goal of providing the University with the capacity to transform itself into entirely new paradigms capable of serving a rapidly changing society and a profoundly changed world. In this effort, it is important to acknowledge that our objective is not to transform the University into any of the various paradigms outlined in the *Vision 2017* essay. Rather our ultimate goal for the remainder of this decade is to build the capacity, the energy, the excitement, and the commitment necessary for the University to move toward such bold visions. We seek 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 the members of the University community to embark on this great adventure.

The capacity for intellectual change and renewal has become increasingly important to us as individuals and to our institutions. Our objective for the next several years is to transform the University into an institution better able to serve our state, our nation, and the world. Our challenge, as an institution and as a faculty, is to work together to provide an environment in which such change is regarded not as threatening but as an exhilarating opportunity to engage in the primary activity of a university, *learning*, in all its many forms, to better serve our world.

Contents

4	<i>Introduction</i>
7	<i>A Time of Challenge and Opportunity</i> Themes of Change in Our Society Themes of Change for Higher Education Some Themes of Change Specific to the University of Michigan
11	<i>Some Questions for the University of Michigan</i>
13	<i>A Summary of the Planning Process To Date</i>
15	<i>Vision 2017: A Paradigm for Michigan's Third Century</i>
19	<i>An Outline of the Transformation Process</i> Some Lessons Learned Goals of the Transformation Effort The Leadership Team The Areas of Transformation Major Strategic Initiatives
24	<i>Steps in the Transformation Process</i>
27	<i>The Elements of Transformation</i> Mission Finances Characteristics Organization and Governance Intellectual Relations with External Constituencies Cultural Issues
41	<i>Supporting Activities</i> The President's Vision Communications Benchmarking and Assessment
44	<i>Some Questions and Observations</i>
47	<i>Concluding Remarks</i>
49	<i>Appendix</i>

Introduction

As one of the most enduring of institutions of our civilization, universities have been quite extraordinary in their capacity to change and adapt to serve societies. Far from being immutable, the university has changed quite considerably 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 profound nature of the challenges and changes facing higher education in the 1990s seems comparable to two other periods of great change in the nature of the university in America: 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.

A century ago, the industrial revolution was transforming our nation from an agrarian society into the industrial giant that would dominate the twentieth century. The original colonial colleges, based on the elitist educational principles of Oxbridge, were joined by the land-grant public universities, committed to broad educational access and service to society. In the decades following this period, higher education saw a massive growth in merit-based enrollments in degree programs at the undergraduate, graduate, and professional level as the comprehensive university evolved.

A similar period of rapid change in higher education occurred in the years following World War II. The educational needs of the returning veterans, the role of the universities in national defense, and the booming postwar economy led to an explosion in both the size and number of major universities. The direct involvement of the federal government in the support of campus-based research at this time led to the evolution of the research university as we know it today.

Today we face challenges and opportunities similar to those characterizing these two earlier periods of transformation. Many point to negative factors, such as the rapidly growing costs of quality education and research during a period of limited resources, the erosion of public trust and confidence in higher education, or the deterioration in the partnership characterizing the research university and the federal government. But our institutions will be affected even more profoundly by the powerful changes driving transformations in our society. These include 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.

There is a broad consensus both among leaders of American higher education and our various constituencies that the 1990s will represent a period of significant change on the part of our universities if we are to respond to the challenges, opportunities, and responsibilities before us. Indeed, many institutions have embarked on major transformation agendas similar to those characterizing the private sector. Many even use the similar language as the refer to their efforts to “transform,” “restructure,” or even “re-invent” their institutions.

Anticipating these efforts to some degree, as early as the mid-1980s 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 and academic units, 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 is not only capable of **adapting** to changing conditions, but to some degree capable as well of **modifying** the environment in which the University would find itself in the decades ahead.

It was recognized that the University of Michigan was a very complex system, responding to the cumulative effects of its history as well as the dynamic boundary conditions characterizing its interactions with the changing world in which it functioned. Despite this complexity, it was considered essential for the University to take responsibility for its own future, rather than having it determined by simply reacting to external forces and pressures.

In recent months I have attempted to summarize the results and status of this planning process in a series of reports and position papers including:

1. *Leadership for the Twenty-first Century: Strategic Planning at the University of Michigan*
2. *Vision 2000: The Leaders and Best . . .*
3. *The Michigan Metrics Project*
4. *Vision 2017: The Third Century*
5. *The Challenge for the 1990s: Transforming the University*

The first of these papers, *Leadership for the Twenty-first Century*, provides a brief history of the strategic planning process launched in 1986 and continuing to the present. The second paper, *Vision 2000*, sets out an agenda for the 1990s aimed at positioning the University of Michigan for a leadership role in higher education for the next century. This agenda is framed through a set of specific goals, the "26 Goal Plan," that provide measurable objectives for the institution. The third report, *The Michigan Metrics Project*, provides an assessment of progress toward each of the goals established by *Vision 2000*. It also provides a framework for an ongoing evaluation of the University's progress toward these goals.

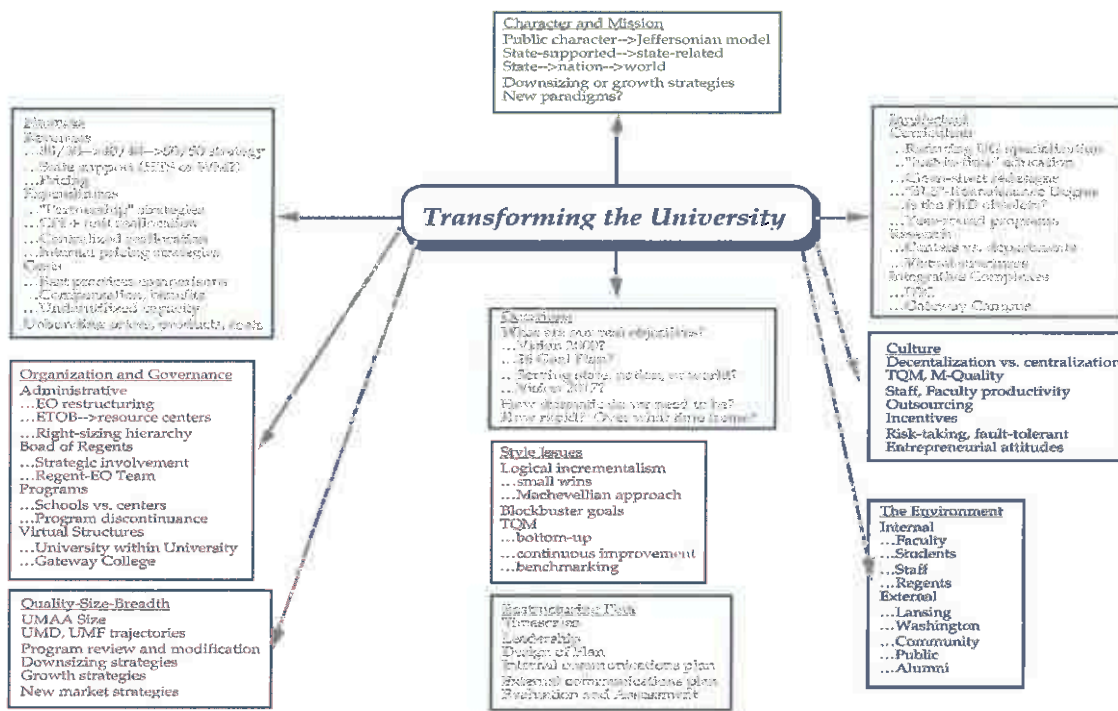
The fourth paper, *Vision 2017*, is somewhat different in both nature and scope. It suggests an array of visions of the University for the longer term. In particular, it considers the various changes characterizing our society and higher education, and then uses this context to examine a set of possible paradigms for the "university of the twenty-first century." It further suggests a particular vision for the University of Michigan which is built both on a foundation of our traditional values and a recognition of the challenges and opportunities that we will likely face in the decade ahead.

This fifth essay, *The Challenge for the 1990s: Transforming the University*, is intended to complete this sequence of reports. It proposes a process to enable the University to explore the paradigms posed in the *Vision 2017* document and to transform itself into an institution better able to serve society in the century ahead.

Each of these visions of the University of Michigan, circa 2017, would require great change. But, just as it has so many times in the past, it is clear that the University must continue to change and evolve if it is to serve a changing society while achieving and sustaining leadership in the century ahead. Hence, it is appropriate to make a few remarks about the process of institutional change as it applies to our University.

Such institutional change has become commonplace in the private sector, where companies frequently must "restructure" themselves to respond to rapidly changing markets. While such "restructuring," "repositioning," or "re-engineering" is sometimes associated with downsizing—or "rightsizing." In reality, it involves an intense re-evaluation of the values, mission, and goals of an organization, and then the alignment of these with the needs and desires of those it serves.

But, of course, herein lies one of the great challenges to universities, since our various missions, our diverse array of constituencies, give us a complexity far beyond that encountered in business or government. As a result, the process of institutional transformation is necessarily more complex as suggested by the diagram below:



Of course, many elements of this transformation process are well underway. Indeed, the positioning strategy of *Vision 2000*, the 26 Goal Plan, spans many of the tasks necessary to transform the University; and we are well down the road in achieving many of these goals.

But the most important and difficult part of any **transformation process** involves **the culture** of the institution. And it is here that we must focus much of our attention in the years ahead. We seek both to affirm and intensify Michigan's commitment to academic excellence and leadership. We seek to build a greater sense of community and of pride in and commitment to the University. We also seek to increase the sense of excitement and adventure among students, faculty, and staff. Most important of all, we seek to change and adapt to serve a changing world.

The capacity for intellectual change and renewal has become increasingly important to us as individuals and to our institutions. Our challenge as an institution and as a faculty 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.

Before laying out a possible transformation plan and the issues that must be confronted by it, it is useful to first provide some background. We should first remind ourselves of the forces demanding change in higher education and consider possible futures for the University of Michigan within this context.

A Time of Challenge and Opportunity

Themes of Change in Our Society

Demographic Change: The New Majority: **We** are becoming more diverse, more pluralistic as a people. Indeed, almost 85 percent of the new entrants into our work force during the 1990s will be people of color, women, or immigrants. Unlike all other advanced nations with whom we compete economically, the United States is becoming a truly pluralistic society. Indeed, some of our major urban centers have already become a combination of first and third-world populations. The pluralism that we see in America today is far more complex than it has been in the past because it is touched by race and the ravages of slavery and by a people deprived of education for more than a century. Further, the bonds that have held our society together in the past are shakier, and those disenfranchised among us are more alienated. Yet our challenge is not merely to address the problems associated with increasing pluralism, but rather to draw strength and vitality from the rich diversity of our people.

The Internationalization of America: Our population, economy, and commerce are becoming every day more interdependent with other nations as the United States becomes a world nation, a member of the global village. For example, the startling political transformation of Eastern Europe and the Soviet Union has already changed the entire context of international economic, political, and military relations for decades to come. But beyond commerce and national security, there is an even more important reason to pay attention to the trends of internationalization. The United States has become the destination of many of the world's **immigrants**. **With falling fertility rates, immigration may soon become the primary determinant of the variability in our population. As we have been throughout our history, we continue to be nourished** and revitalized by wave after wave of immigrants coming to our

shores with unbounded energy, hope, and faith in the American dream. Today, in a very real sense, America is evolving into the first true “world nation” with not simply economic and political ties, but also ethnic ties to all parts of the globe.

The Post-Cold-War World: As peace has broken out, the principal rationale behind many of the major federal investments of the past half-century has disappeared, particularly, the American research university. As the priorities of a new social agenda form in the years ahead, it seems clear that there will be a major shift in public investments. Far from benefiting from a peace dividend, the research university, along with many other knowledge-based institutions in our society, may find itself at considerable risk.

Spaceship Earth: As the world population continues to grow, it is increasingly clear that humankind is permanently altering the planet itself. Whether through consumption of limited natural resources, deforestation, depletion of the ozone layer, or the buildup of greenhouse gases, it seems imperative that our generation accept its responsibilities to the next by becoming better stewards of spaceship Earth. Sustainable human existence may well become the most serious challenge of the twenty-first century.

The Age of Knowledge: We are rapidly evolving into a society in which the key strategic resource necessary for prosperity and social well being have become knowledge itself, that is, educated people and their ideas. In this world knowledge will play the same role that in the past was played by natural resources or geographic location or labor pools. Put in another way, while forces such as land, guns, and money drove the past, ideas will be the driving force of the twenty-first century.

Themes of Change for Higher Education

The Rising Costs of Excellence and the Limits on Resources: Higher education is suffering the consequences of structural flaws of national and state economies—the growing imbalance between revenues and expenditures—that are undermining support for essential social institutions as governments struggle to meet the demands of short-term needs at the expense of long-term investment. The effort to adapt to limited resources is made more difficult by the fact that—at least within existing paradigms of teaching and scholarship—the costs of excellence have been growing considerably faster than the available resource base.

The Changing Relationships with Diverse Constituencies: The modern research university is accountable to many constituents: to its students, faculty, staff, and alumni; to the public and their elected leaders in government; to business and labor, industry and foundations; and to the full range of other private institutions in our society. The diversity—indeed, incompatibility—of the values, needs, and expectations of the various constituencies served by higher education poses a major challenge. The future of our colleges and universities will be determined in most cases by their success in linking together the many concerns and values of these diverse groups, even as they respond in an effective fashion to their needs and concerns.

The Difficulty in Comprehending the Modern University: The modern research university is complex and multidimensional. People perceive it in vastly different ways, depending on their vantage point, their needs, and their expectations. Unfortunately, most people—and most components of state, federal, and local governments—can picture the University “elephant” only in terms of the part they can feel, e.g., research procurement, student financial aid, and political correctness. Few seem to see, understand, or appreciate the entirety of the University. No one seems to understand or care that shifting state or federal priorities, policies, or support aimed at one objective or area will inevitably have an impact on other roles of the University.

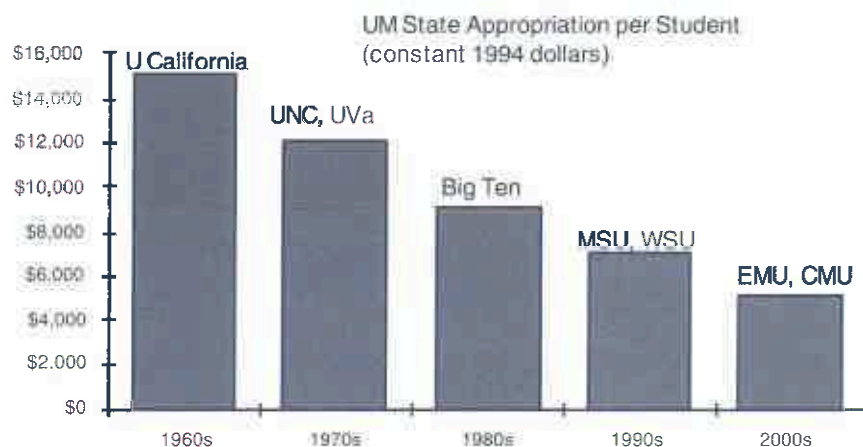
Intellectual Challenges: Many of the most significant challenges before higher education today are intellectual in nature. The knowledge of the world is available almost literally “out of the air” with modern computer/communications networks and digital libraries. Beyond access to vast amounts of knowledge, we have also entered a period of great intellectual change and foment. New ideas and concepts are exploding forth at ever-increasing rates. We have ceased to accept that there is any coherent or unique form of wisdom that serves as the basis for new knowledge, as oral and visual communication begins to challenge our traditional writing and reading culture. Clearly the capacity for intellectual change and renewal has become increasingly important to us as individuals and to our institutions.

The Changing Role of the Research University: As we enter an age of knowledge, the University finds itself regarded as a key economic, political, social, and cultural institution as the result of extraordinary transformations occurring throughout our nation and the world. Beyond our traditional missions of teaching, research, and service, the University today is expected to play a broader role in providing the intellectual capacity necessary to build and sustain the strength and prosperity of our society. Society has an increasingly vital stake in what we do and how we do it. Given the divisions in society-at-large, the tensions between tradition and change, liberty and justice, social pluralism and unity, and nationalism and internationalism, it is no wonder that we find ourselves the battleground for many competing values and interests, both old and new. The more important question is whether we can survive this new attention with our missions, our freedoms, and our values intact.

The Pace of Change: Many believe that we are going through a period of change in our civilization just as profound as that which occurred in earlier eras such as the Renaissance and the Industrial Revolution—except that while these earlier transformations took centuries to occur, the transformations characterizing our times will occur in a decade or less! Both the pace and nature of the changes occurring in our world today have become so rapid and so profound that our present social structures—in government, education, the private sector—are having increasing difficulty in even sensing the changes (although they certainly feel the consequences), much less understanding them sufficiently to allow institutions to respond and adapt. It could well be that our present institutions, such as universities and government agencies, which have been the traditional structures for intellectual pursuits, may turn out to be as obsolete and irrelevant to our future as the American corporation in the 1950s. There is clearly a need to explore new social structures capable of sensing and understanding the change, as well as capable of engaging in the strategic processes necessary to adapt or control change.

Some Themes of Change Specific to the University of Michigan

The Erosion of State Support: The severity of the University's erosion in state support is made clear by comparing our state appropriation per student with those of other public universities over the past several decades:



It seems increasingly clear that the days of generous **and** abundant support from state tax dollars which enabled the University to grow so rapidly during the decades following World War II are gone, unlikely to return again in our lifetimes.

Intrusion on University Autonomy: During the past decade we have seen increasing signs of intrusion upon the traditional autonomy of the University, by state government, federal government, the community, and the media. Examples include: state government's attempts to control tuition, enrollment (e.g., instate/outstate mix), programs, and facilities projects; increasing efforts by the press to control the University through use of the Open Meetings Act and the Freedom of Information Act, and city government's efforts to constrain University operations and assess it for city-provided services.

Federal Intrusion: Both because the University is one of the nation's leading research universities, and also because the Michigan Congressional delegation has among its members an unusual number of chairs of key investigative committees, the University finds itself under increasing burden of federal regulation, audits, and other demands for accountability. This has been made even more serious by a shift in federal attitude toward **universities** from partnership relationship to **that of procurement contractor**.

Political Issues: The University has always had an exceptionally active political climate on campus. As such, it has attracted an unusually large number of special interest groups, but it also draws intense external political pressure on many issues. When coupled with the increasing hostility of the media toward higher education, this political tension—while no doubt “invigorating” to the learning environment—can also erode public understanding, trust, and confidence in the University. (The recent wars over “political correctness” are an excellent case in point.)

Some Questions for the University of Michigan

To illustrate the significance of these challenges, consider the following questions concerning the future of the University of Michigan:

Question 1: What is the fundamental role of the University in modern society?

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

Question 2: How does one preserve the public character of an increasingly privately financed university? How does a “state-related” university adequately represent the varied interests of its majority shareholders (e.g., students, parents, patients, federal agencies, private donors)? Can one sustain an institution the size and breadth of the University of Michigan on self-generated revenues (e.g., tuition, federal grants and contracts, private gifts, auxiliary revenues) alone?

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

There is a growing national concerns that we have lost our balance and direction when it comes to under-graduate education. If so, then how do we address these concerns?

Question 4: What is the proper balance between disciplinary and interdisciplinary activity?

How can we encourage more people to work in truly innovative areas without unduly jeopardizing their academic careers? How can we stimulate a greater risk-taking intellectual culture in which people are encouraged to take bold initiatives?

Question 5: It is clear that we have an unparalleled opportunity to shape the academy for the future through this generation of graduate students. Yet how do we meet this responsibility? Is the PhD degree the approach for the broadly educated, change-tolerant faculty needed by today’s universities?

Question 6: Nowhere is the opportunity to shape the future of the University of Michigan greater than in the hiring of young faculty. In the 1990s and early twenty-first century we will be facing a major number of faculty retirements, thereby providing opportunity to bring new people into the University. Yet how do we select new faculty for brilliance and creativity? Indeed, do our present traditions and practices

in faculty selection allow us to select genius? How do we assess and enhance teaching ability? How do we evaluate and reward service activities? Indeed, what is the appropriate form of service in the research university?

Question 7: How would we respond to a situation in which the State of Michigan during the 1990s and beyond only has the capacity (or will) to support the University at the level of a state college system (e.g., CMU or EMU) and not at the level adequate to sustain a world-class public university?

Question 8: How good should we strive to make our programs?

- to compete with the top publics?
- to compete with the top publics and privates?
- to be ranked among the top 10?
- to be ranked #1?

Question 9: How do we enable the University to respond and flourish during a period of very rapid change?

Question 10: How do we best protect the University's capacity to control its own destiny?

Question 11: Should the University be a leader? If so, then where should it lead?

Question 12: Should our balance of missions shift among

- teaching, research, and service?
- undergraduate, graduate, and professional education?
- service to state, nation, and world?

A Summary of the Planning Process To Date

In any strategic activity, it is important to develop both a vision of the future of the institution and a definition of its mission. Although a great many groups were involved in various stages of the planning process, there was one common theme characterizing all discussions of vision and mission: the theme of **leadership**.

This led to the following vision statement for the University:

Vision 2000: The leaders and best. . .

To position the University of Michigan to become the leading university of the twenty-first century.

It was recognized that such a leadership vision would require a complex strategy, since all of the key characteristics of the University are involved: quality, capacity (size), breadth (comprehensiveness), excellence, and innovation. In fact, the achievement of *Vision 2000* would require an optimization of all of these factors.

In a similar sense, a great deal of effort was directed at developing an appropriate mission statement for the University:

The Mission Statement:

Business Line:

Creating, preserving, integrating, transmitting, and applying knowledge

Products and Services:

Knowledge and knowledge-intensive services
Educated people with capacity and desire for leadership

Customers:

Primary: Society at large
Others: Students, patients, sponsoring agencies . . .
Shareholders: State, feds, private sector, public

Market Niche: Leadership

While some aspects of this mission statement would apply to any university—e.g., the triad mission of teaching, research, and service—other features are specific to the University of Michigan. For example, Michigan is one of the very few universities in the world that can claim society-at-large as its primary customer. And, indeed, over the course of its history, the University of Michigan's primary impact has been through its full array of activities rather than through a particular subcomponent of its mission such as teaching or research. So too, Michigan is one of the few universities that can claim leadership as a true component of its mission.

To achieve *Vision 2000*, the various strategic planning groups developed a series of specific goals for the 1990s:

Leadership Goals

1. To enhance the quality of all academic programs.
2. To sustain UM blend of broad access and highest quality.
3. To build more spires of excellence.
4. To achieve more "firsts" for the University.
5. To become the leading research university in the nation.
6. To achieve the objectives of the Michigan Mandate.
7. To make UM the University of choice for women leaders.
8. To develop a new paradigm for undergraduate education.
9. To enhance the quality of the student living/learning environment.

Resource Goals

10. To build strong leadership teams for the University.
11. To acquire resources to compensate for the loss of state support.
12. To restructure the University to better utilize existing resources.
13. To strengthen external relationships (state, feds, public).
14. To enhance the quality of institutional advancement activities.
15. To increase private support to exceed the state appropriation by 2000.
16. To increase endowment to \$2 B by 2000.
17. To dramatically improve the quality of UM facilities.

Trailbreaking Goals

18. To restructure the University to better respond to intellectual change.
19. To explore new models for the University of the twenty-first century.
20. To position UM as a "world university."
21. To position UM as an "electronic university" of the twenty-first century.
22. To make UM a leader in knowledge transfer to society.
23. To make the Ann Arbor area the economic engine of the mid west.
24. To help implement a plan for "restructuring" the State of Michigan.
25. To have the leading intercollegiate athletics program in the nation.
26. To build a greater sense of pride in . . . respect for . . . excitement about . . . and loyalty to the University of Michigan!

A key aspect of any strategic effort involves an accurate assessment of progress toward meeting various goals. As we have refined our goals, we have also sought to identify "metrics," parameters subject to measurement and suitable for determining progress. Each of the goals listed above has been characterized by an array of such metrics, and we have gathered data characterizing these parameters over the past decade so that we may better benchmark our progress toward *Vision 2000*. These data, assembled in the Michigan Metrics Project, make it clear that the University has made significant progress toward most of the *Vision 2000* goals in recent years.

Yet, the *Vision 2000* strategy is very much a **positioning** effort. It is designed to position the University of Michigan as the leader of higher education by the end of the decade. But this strategy does not propose a specific direction beyond this point. Rather, the current strategy

and the vision should both be regarded as intermediate phases and not as a final goals. Put another way, the strategy for the 1990s has been designed to move Michigan into a true leadership position in American higher education. But the task of determining just **where** the University will lead in the twenty-first Century is still in an early stage of development.

While *Vision 2000: The Leaders and Best*, is exciting, compelling, and clearly attainable for the 1990s, it is still only a short range vision. The development of a vision for the longer term—for the University of Michigan's third century—will pose an even greater challenge because the University itself is such a dynamic institution.

Vision 2017: A Paradigm for Michigan's Third Century

To build a new model of the University, it is appropriate to begin with descriptors which convey both our most cherished values and our hopes for the future. For example, we might embrace the following shared values:

- Excellence
- Leadership
- Critical and rational inquiry
- Liberal learning
- Diversity
- Caring and concern
- Community
- Excitement

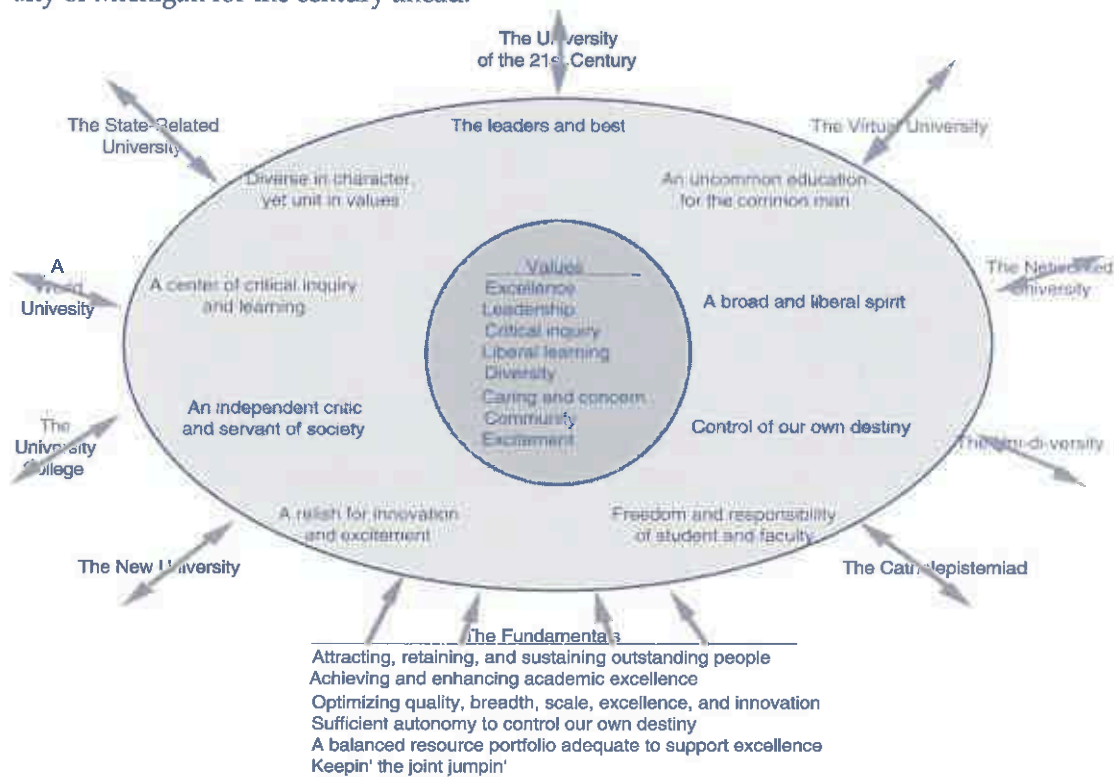
Beyond this, we might also choose from among the many past descriptors of the characteristics of the University, those which seem most important to preserve for the future:

- "The leaders and best . . ."
- "An uncommon education for the common man (person) . . ."
- "A broad and liberal spirit . . ."
- "Diverse, yet united in a commitment to academic excellence and public service . . ."
- "A center of critical inquiry and learning . . ."
- "An independent critic and servant of society . . ."
- "A relish for innovation and excitement . . ."
- "Freedom with responsibility for students and faculty . . ."
- "Control of our own destiny comparable to private universities . . ."

Undergirding these values and characteristics would be aspirations that characterize “the fundamentals,” those actions and goals to which we must continue to give high priority to achieve our vision:

- Attracting, retaining, and sustaining the most outstanding people (students, faculty, staff)
- Achieving, enhancing, and sustaining academic excellence in teaching and scholarship
- Optimizing the balance among quality, breadth, scale, excellence, and innovation
- Sufficient autonomy to control our own destiny
- A diversified resource portfolio, providing a stable flow of resources necessary for leadership and excellence regardless of the ebb and blow in particular areas (state, federal, private giving . . .)
- “Keepin’ the joint jumpin!”

We can put together these descriptors to develop the core of a possible design of the University of Michigan for the century ahead:



Notice that we have arranged around this core of values and characteristics a number of the paradigms of the University. While none of these would be appropriate alone to describe the University as it enters its third century, all are likely components of our institution, as seen by various constituents. For example, we are already well down the road to becoming a **state-related university** with state support declining to less than 12 percent of our resource base. It is highly unlikely that it will ever recover to its previous levels in light of the limited capacity and priorities of our state.

So too, we are already well along in our efforts to transform Michigan into a **diverse university**, a university committed to building and sustaining a diverse learning community. Through major strategic efforts such as the Michigan Mandate and the Michigan Women's Agenda, we are becoming an institution more reflective of the rich diversity of our society. Further, we are learning how to weave together the dual objectives of diversity and unity in a way that strengthens our fundamental goal of academic excellence to better serve our state, our nation, and the world.

While some research universities may well decide to focus on advanced education and scholarship and leave general education to others, the University of Michigan should not only retain but greatly intensify its commitment to undergraduate education. The **university college** concept, whether as a formal self-standing entity or a virtual structure, seems the most appropriate paradigm for the general education of lower-division students in a vast research university with an unusually broad array of disciplinary and professional majors. So too, several conditions point in the direction of a University College: the increasing need to broaden undergraduate education, to make it the responsibility of the entire University, and to dramatically change our pedagogical approaches so that we respond both to the changing learning styles of our students and to the rapidly expanding knowledge base. Our plan to construct a new Gateway Campus for undergraduate education will be key to this effort. This complex of new facilities, to be funded both through the Campaign for Michigan and through student fees (or state appropriation), will not only contain the key learning spaces for undergraduate education, but it will be linked as well to our key museums (Art, Kelsey, Anthropology, Natural History) and performing arts centers (Power, Hill, Mendelssohn), thereby providing our undergraduates with a gateway to the knowledge of mankind.

Somewhat more controversial is the concept of the University of Michigan as a **world university**. Yet what could be more natural? Both our heritage as the flagship of public higher education and our location in the heartland of the nation provide us with an unusual claim on being the most "American" of universities. And over the past century, we have led the way both in opening up doors of opportunity to students from abroad and in developing outstanding programs in international studies. Further, we have strong relationships with most of the leading universities around the world. But there is another important reason for seriously considering shifting our focus to the world level: our leadership role in the development and implementation of the technology with the potential to make worldwide access possible.

Michigan is already well down the road toward becoming a **cyberspace university** through its management of NSFnet, the United States component of the Internet and the backbone of the National Research and Education Network. The University of Michigan's Ann Arbor campus has probably the most robust computing environment of any university in the world, and this environment—our students, faculty, and staff—are already linked to the world through our computer networks. Like many others, I believe that computer-communications technology will have a profound impact on the nature of teaching, scholarship, and service; and I believe Michigan is already in the vanguard of those knowledge-based institutions rapidly evolving to take advantage of this extraordinary resource.

This technology will likely make possible yet another vision of the University, the **Catholespistemiad**, in which we assume more direct responsibility for lifetime education. While I do not believe that the University should get into the business of managing K-12 systems, I do believe that we have both a public responsibility and a vested interest to be far more involved with primary and secondary education. We can certainly focus the vast resources of the University in a way that will better enable our public schools to meet their many challenges, particularly in the State of Michigan. But beyond that, I believe we must build a new relationship with our students and our graduates that will amount to a commitment to provide them with education through their lives. Using an array of devices ranging from short courses to distributed educational sites to computer networks, we should develop programs capable of delivering educational services to our graduates whenever they need it. In a sense, our alumni should always remain part of our organization chart, just as they are always part of the Michigan family.

One of the most difficult tasks will be to move toward the paradigm of a **divisionless university**, an institution in which students and faculty are not constrained by disciplinary boundaries. Yet this change in the intellectual character of the University is one of most important goals before us, since it is increasingly clear that knowledge, education, and scholarship simply cannot be organized or constrained along disciplinary lines. Of course, the University has long been known for strong interdisciplinary programs including the Institute for Social Research, the Howard Hughes Medical Research Institute, the Institute for Humanities, the Rackham School of Graduate Studies itself, and literally hundreds of other institutes, centers, programs, seminars, and other informal groups. But far more must be done if we are to break the deification of the disciplines and allow our students and faculty the necessary freedom to keep pace with intellectual change. We must resist over-specialization in our degree programs, at the undergraduate, professional, and graduate levels. We should allow our best faculty to become professors-at-large in the University, with the freedom to teach and conduct scholarship wherever they wish. We should allow interdisciplinary groups to form easily—but also insist that when they have outlived their usefulness, they may be easily abandoned. And we should develop a pool of resources, “venture capital” if you will, that we can use to stimulate new interdisciplinary efforts.

The University is also well-positioned to develop the vision of the **creative university**. Interestingly enough, the four schools whose intellectual nature place most stress on creativity—Music, Art, Architecture, and Engineering—are located together on the University’s North Campus. Over the past several years the deans and faculties of these schools have been engaged in an exciting dialogue to better integrate their teaching and research efforts, to learn from one another how to better understand and teach the process of creation. One of the most important resources for this effort will be a new North Campus facility, now under construction, that will bring together these schools in a “Media Union,” that will contain libraries, classrooms, computer clusters, design spaces, and performance studios. The faculties of these schools even suggest that we should rename the North Campus the “Renaissance Campus” to reflect this new focus on the process of creativity!

It is important to consider the more abstract concept of the University suggested by the **knowledge server** paradigm. The different manifestations of the basic functions of creating, preserving, transmitting, and applying knowledge through the social institution of the University over the centuries is ample evidence that such evolution can be expected to continue.

Clearly, these visions of the University, these paradigm shifts, raise many questions which can only be answered through experience. For that reason, among the various visions proposed in the *Vision 2017* document, the “university within a university” or the **new university** is among the most important, since it can provide a laboratory for developing the other visions. In the earlier discussion of the “new university” in the *Vision 2017* document, we noted how it might be organized along highly nondisciplinary lines, perhaps even integrating together various degree programs. It might also be used to test various schemes to better link alumni to the University or to develop international experiences for our students. In such an academic unit, we would hope to build a risk-tolerant culture in which students and faculty are strongly encouraged to “go for it,” in which failure is accepted as part of the learning process associated with ambitious goals rather than poor performance. And, the new university should be characterized by a level of excitement and adventure that will propagate to the University at large.

Each of these visions of the University of Michigan, circa 2017, will require great change. But, just as it has so many times in the past, it is clear that the University must continue to change and evolve it if to serve society and achieve leadership in the century ahead. The status quo is simply not an acceptable option.

An Outline of the Transformation Process

So how does an institution as large, complex, and tradition-bound as the University of Michigan go about transforming itself. Historically, we have accomplished change using a variety of mechanisms:

- “Buying” change with additional resources
- By laboriously building the consensus necessary for grassroots support of change (e.g., the logical incrementalism approach used in the Michigan Mandate)
- By changing key people
- By finesse . . . by stealth of night . . . (a la Machiavelli)
- “Just doing it” . . . that is, top down decisions followed by rapid execution (following the old adage that “it is better to ask forgiveness than to seek permission”)

For the type of institutional transformation necessary to move toward the major paradigm shifts represented by *Vision 2017*, we will need a more strategic approach capable of staying the course until the desired changes have occurred. It is useful to look at the experience of others.

Some Lessons Learned

Through earlier efforts to restructure the University of Michigan (e.g., the “smaller but better” effort of the early 1980s) and from the experience of other organizations in both the private and public sector, several features of transformation processes should be recognized at the outset:

- First, it is critical to define the real challenges of the transformation process properly. The challenge is usually not financial or organizational. Rather it is the degree of cultural change required. We must transform a set of rigid habits of thought and arrangements that are currently incapable of responding to change either rapidly or radically enough
- It is important to achieve true faculty participation in the design and implementation of the transformation process, in part since the transformation of the faculty culture is the biggest challenge of all. But here the faculty participation must involve its true intellectual leadership rather than the political leadership more common to formal faculty governance
- It has been found that the use of an external group is not only very helpful but probably necessary to provide credibility to the process and assist in putting controversial issues on the table (e.g., tenure reform)
- Unfortunately, no universities—and few organizations in the private sector—have been able to achieve major change through the motivation of opportunity and excitement alone. Rather it has taken a crisis to get folks to take the transformation effort seriously, and even sometimes this is not sufficient
- The president must play a critical role both as a leader and as an educator in designing, implementing, and selling the transformation process, particularly with the faculty

To summarize, the most important and difficult part of any transformation process involves changing the culture of the institution. And it is here that we must focus much of our attention in the years ahead. We seek both to affirm and intensify Michigan’s commitment to academic excellence and leadership. We seek to build more of a sense of community, of pride in and commitment to the University. And, of course, we also seek to create more of a sense of excitement and adventure among students, faculty, and staff. But we wish to accomplish this in such a way as to align the University to better serve a rapidly changing society.

The capacity for intellectual change and renewal has become increasingly important to us as individuals and to our institutions. Our challenge, as an institution, and as a faculty, is to work together to provide an environment in which such change is regarded not as threatening but rather as an exhilarating opportunity to achieve even higher quality and greater impact on our society.

Goals of the Transformation Effort

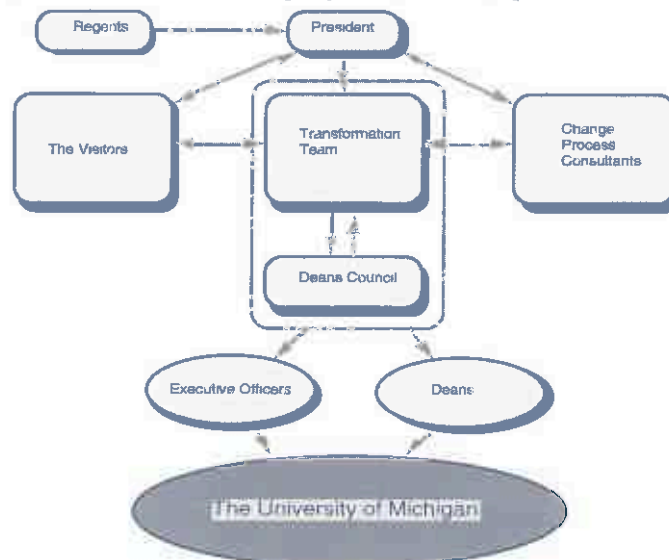
It is important to understand the real goals of the transformation process we are developing for the next several years. First, we believe it is important to move beyond the positioning strategy of *Vision 2000* and the 26 Goal Plan. To be sure, the vision of positioning the University of Michigan as a leader of higher education for next century and the various goals proposed to achieve this vision are important and challenging. But, in reality, they involve achieving leadership and excellence within the present paradigm of the University in America, of polishing the status quo, of becoming the very best “university of the twentieth century” that we can become.

The transformation process is designed to move beyond this, to provide the University with the capacity to transform itself into new paradigms that will better serve a rapidly changing society and a profoundly changed world. Do we expect that the transformation effort would actually allow us to achieve *Vision 2017* during the tenure of the present University leadership? Of course not. Rather, our real objective in this transformation effort is to build the capacity, the energy, the excitement, and the commitment necessary for the University to move toward such bold visions. We seek 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 the members of the University community to embark on this great adventure.

In summary, our objective for the next several years is to provide the University with the capacity to transform itself into an institution able to serve our state, our nation, and the world.

The Leadership Team

The leadership for the transformation effort should be provided by a team of executive officers, deans, and directors, augmented by an advisory group of faculty experts on organizational change and a board of visitors. A proposed leadership structure is diagrammed below:



Here the EO-Dean transformation team will consist of those executive officers with responsibilities for the operations of the UM-Ann Arbor campus (e.g., the President, Provost, EVPCFO, VP-Research, VP-Student Affairs, and VP-University Relations). It is also important to note that this group of executives is quite unusual in higher education, since all have doctorates and experience as faculty. Furthermore, all have extensive experience outside the University spanning higher education, state and federal government, and the private sector.

The Areas of Transformation

The transformation process will involve several specific areas:

- The Mission of the University
- Financial Restructuring
- Organization and Governance
- General Characteristics of the University
- Intellectual Transformation
- Relations with External Constituencies
- Cultural Change

These transformation areas are closely coupled, and clearly efforts aimed at transformation in one area must be carefully coordinated with other areas:



We will return later in this document to consider in more detail the issues associated with each of these transformation areas.

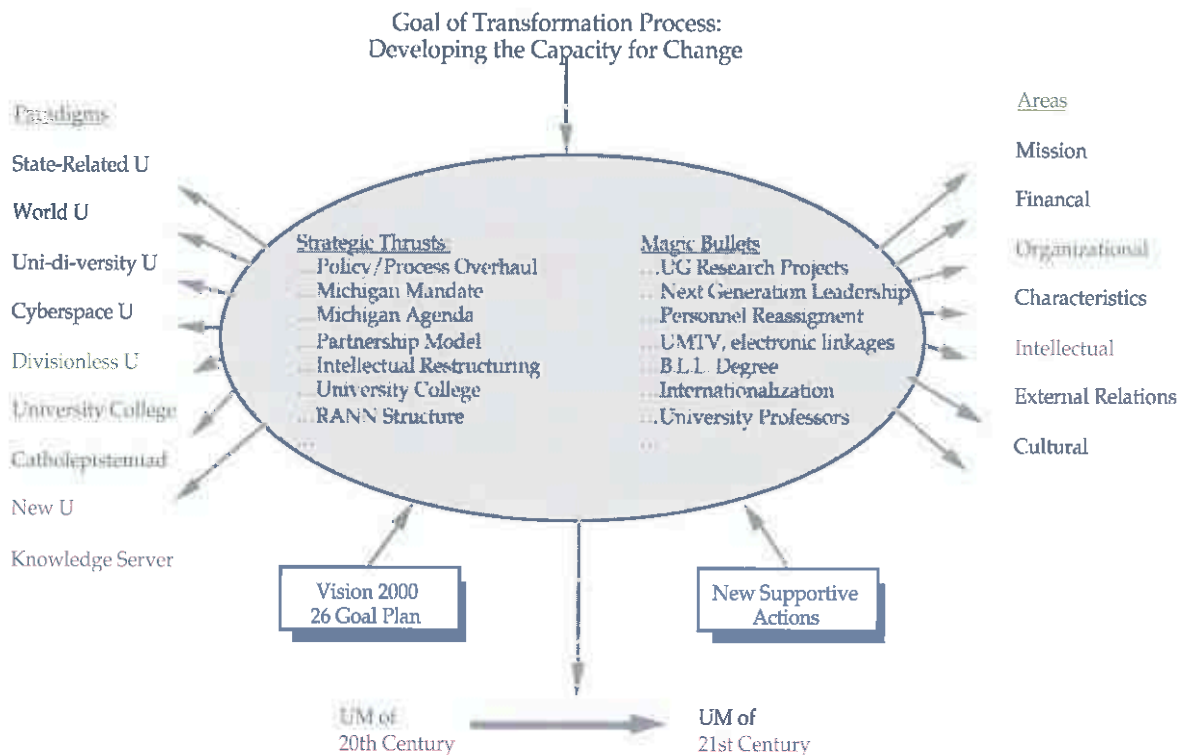
Major Strategic Initiatives

The key approach to achieving transformations across these areas that move the University toward *Vision 2017* will be to organize the effort through a series of strategic thrusts or initiatives. Each such strategic thrust will be designed as a self-contained effort, with a clearly-defined rationale and specific objectives. However, all such initiatives will be chosen to move the University toward the more general (and abstract) goals of *Vision 2017*. Further, care will be taken to monitor and coordinate carefully the strategic thrusts, since they will interact quite strongly with one another.

Examples of possible strategic thrusts include:

- Michigan Mandate
- Michigan Women's Agenda
- Financial Restructuring
- Asset Management
- M-Quality
- Campus Evolution
- Intellectual Restructuring
- Research Environment
- Superstar Project
- The University College
- Student Living/Learning Environment
- Leadership Development
- Human Resource Development
- Community Building
- The Electronic University
- The World University
- University Enterprise Zones
- Community Relations
- State Relations
- Federal Relations
- Alumni Relations
- Strategic Marketing/Communications
- Networking the University (ITD, UMTV, . . .)

The diagram on the following page provides a sense of how these strategic thrusts relate both to the areas of transformation and *Vision 2017*:



Steps in the Transformation Process

Experience demonstrates that the process of transforming an organization is not only possible but also understandable and even predictable, to a degree. The revolutionary process starts with an analysis of the external environment and the recognition that radical change is the organization's best response to the challenges it faces. The early stages are sometimes turbulent, marked by conflict, denial, and resistance. But gradually, leaders and members of the organization begin to develop a shared vision of what their institution should become and turn their attention to the transformation process. In the final stages, grass-roots incentives and disincentives are put into place to create the market forces to drive institutional change, and methods are developed to measure the success of the transformation process. Ideally, this process never ends.

Of course, much of the preparation for this transformation has already occurred, including launching several of the major strategic thrusts. My speeches and writings have focused on institutional change. A series of planning groups, both formal and ad hoc, have met to discuss the future of the University. These include the Strategic Planning Teams of the late 1980s, the Futures Group in various guises, ad hoc meetings of faculty across the University, the Prahalad discussions, and several joint retreats of Executive Officers, Deans, and faculty leaders. A Presidential Advisory Committee was formed and met regularly on strategic issues for several years. A series of joint luncheon discussions involving the deans and

executive officers was held and focused on the change process. And extended strategic discussions with the Board of Regents were initiated and will continue throughout the transformation effort.

We are now ready for a more systematic approach to the transformation process:

Step 1: Build a Shared Vision Among the Executive Officers

It is critical that all members of the EO-Dean Transformation Team buy into the transformation process and fully support it. To this end, the team was led through a detailed discussion of the rationale and elements of the proposed transformation process in Winter Term of 1994. Through this effort, a firm commitment was made to the transformation.

Step 2: Augment the EO Team with Selected Deans and Directors

It is important to build a similar understanding and commitment on the part of key deans and then to merge them with the executive officers group into the Transformation Team. During the Winter Term of 1995, these discussions were held with various groups of deans.

Step 3: Involve the Regents in the Transformation Effort

It is essential that the Regents play an active role in the design and execution of the transformation process. Informal discussions of long-range strategic issues have been included during the course of each monthly Regents' meeting. A series of position papers have been prepared to provide Regents with the background for various decisions they will be asked to make.

Step 4: Creation of Advisory Bodies

In parallel with the leadership team-building effort, form and begin to use the advisory groups including the Visitors and the President's Advisory Council.

Step 5: Implementation of Strategic Communications Efforts

Effective communication throughout the campus community will be absolutely essential for the success of this effort. Since there is extensive experience in the design and implementation of such communications programs in the private sector, we might wish to engage private consultants to help us design and execute this effort.

Step 6: Launching Presidential Commissions

Following the identification of key strategic thrusts by the Transformation Team, a series of Presidential Commissions has been formed to study the issues associated with these initiatives and develop specific recommendations. These commissions are chaired by several of our most distinguished and influential faculty and heavily populated with change agents.

Commissions currently underway include:

- The Faculty Contract
- Organization of the University
- Recruiting and Retaining the Extraordinary
- Streamlining Processes, Procedures, and Policies

Step 7: Igniting the Sparks of Transformation

There are two general approaches to changing organizations: In "command and control" approaches, one attempts to initiate and sustain the process through top-down directives and

regulation. However, since power declines rapidly with the distance from the leadership, this approach has limited utility in large organizations.

The alternative approach, more appropriate for large, complex organizations such as the University, is to create self-sustaining market dynamics, e.g., incentives and disincentives, that will drive the transformation process. A good example here is provided by the Target of Opportunity Program for minority faculty hiring. Despite the University's commitment to increasing minority representation on the faculty, we were simply not effective using affirmative actions programs and edicts from the top, since these were largely ignored by the search committees several levels down the organizational hierarchy. When we put into place the Target of Opportunity program, we created market forces at the levels of the search, since successful minority searches drew resources from less successful units (both a carrot and a stick). Only then did we begin to see real results.

Hence, for each of our major strategic thrusts, we need to identify highly targeted actions—"magic bullets"—which create the incentives and disincentives and ignite the sparks necessary for grass-roots change. This is where the real creativity in the design of the transformation is needed.

Step 8: Streamlining Processes and Procedures

Universities, like most large, complex, and hierarchically organized organizations, tend to become bureaucratic, conservative, and resistant to change. Over time we have become encrusted with policies, procedures, committees, and organizational layers that tend to discourage risk-taking and creativity. We must take decisive action to streamline processes, procedures, and organizational structures to enable the University to better adapt to a rapidly changing world.

Step 9: The Identification and Activation of Change Agents

It is important to identify individuals at all levels and in various units of the University who will buy into the transformation process and become active agents on its behalf. In some cases these will be among our most influential faculty or staff, e.g., the Network of 100. In others, it will be a group of junior faculty, young Turks. In still other situations, it may be key administrators. We must design a process to identify and then recruit these individuals.

Note that there is an important distinction between the role of the Network of 100 group and the change agents. We need to work closely with the group of most influential faculty and staff, since their understanding and support of the effort will validate the transformation process. In a sense, they will be the target audience for many of our communication efforts.

In contrast, the change agents will play an active role by actually moving the process ahead. They will also be key in our efforts to communicate with the broader University community.

Step 10: Selecting Leadership for a Time of Change

Finally, and most significant of all, we must use every opportunity to select leaders at every level of the University—deans and directors, chairs and managers—who not only understand the profound nature of the transformations that must occur in higher education in the years ahead, but who are effective in leading such transformation efforts.

The Elements of Transformation

Mission

Of course, the most fundamental transformation issues involve the changing character and mission of the University. It is important to begin by asking what our real objective is. For example, for many, the goals of *Vision 2000: The Leaders and Best . . .*, as articulated in the 26-Goal Plan, would be both appropriate and adequate. The achievement of even these goals would require significant transformation of the institution. The more dramatic model of the University set out in *Vision 2017* will require even greater transformation.

To understand better the issues involved in this transformation of mission, we might begin by asking just why the University of Michigan has been so successful in the past. What has been our unique role, our mission? What has been the key to our longevity? With Oxford and Cambridge, the key to longevity was their role in perpetuating the British class system—and this explains in part why these institutions have recently fallen on such hard times as this class system has eroded. In the United States, Harvard existed to serve the Yankee population of the Northeast, Yale served New York City (predominantly), and Stanford participated in the extraordinary growth of California. In this context, then, it is clear that the role of the University of Michigan was to serve the heartland of America, to implement the Jeffersonian model of an educational institution created by the people to serve all the people. Perhaps best captured by the Angell phrase, “an uncommon education for the common man,” this institutional mission to provide education, and later research and service, to far broader elements of our society has always been a key to our character.

In the past, the capacity to play this role has been provided through exceptionally strong state support, at a time when Michigan prospered as the industrial engine of America, and when the University of Michigan was the only major institution in the state. Yet today, as state support has dropped to less than 12 percent of our resource base, one must question whether this traditional role of serving primarily the state must also change. In many ways, we evolved long ago from a state to a national university, and perhaps today our true constituency is the world itself.

There is a certain dilemma here. Many, including some state politicians, the media, and numerous private citizens, still see Michigan as predominantly a state university, with a mission to provide low cost and, if possible and affordable, quality education and service to the state itself. Yet, it is clear that there are now many institutions capable of providing low cost education of moderate quality. Few, however, can provide the high quality, high reputation education, research, and service characterizing the University of Michigan. And, judging from the marketplace and particularly those constituents who provide 88 percent of the University’s resources, this latter role, which emphasizes quality rather than cost, is the mission that most consider to be appropriate for our institution.

Of course, the more radical paradigm changes proposed in *Vision 2017* such as the Catholepistemiad or the cyberspace university would extend and reshape the University’s mission quite considerably. We need to develop the capacity to consider and debate these alternative futures as an objective of the transformation process.

Finances

The issues involved in financial restructuring of the University go beyond the traditional revenue and expenditure considerations which have dominated the past decade. More broadly, we can classify the resources of the University in the following manner:

Financial Resources:

- General Funds (State appropriation, tuition, interest income)
- Designated Funds (gifts, endowment income)
- Expendable Restricted Funds (sponsored research)
- Auxiliary Funds (clinical fees, housing, athletics)

Space Resources

- State capital outlay
- Private gifts
- Internally financed facilities projects
- Debt-financed facilities projects
- Utilities and maintenance
- Space allocation

Human Resources

- Instructional faculty
- Research faculty
- Support staff
- Administrative staff
- Auxiliary unit staff
- Students
- Other clients (patients, spectators . . .)

Over the past decade we have considered a variety of schemes to allocate such resources. In general, our primary resource allocation scheme can be best described as “incremental budgeting,” in which we accept the continuation of the status quo, and instead look at small perturbations from this—primarily through small increases allocated on a selective basis. Further, like most universities, we rely heavily on fund accounting, both for financial accountability and for budgeting.

While the University experimented with more substantial selective program reduction in the early 1980s, this has not been a major tool in recent resource allocation activities. Other resource allocation schemes have been more commonly used. “Decremental budgeting,” in which all units are required to reduce base budgets by a small percentage each year, has been common during the past two decades. (Units are currently reducing base expenditures by 2 percent per year for the next five years.) The University has also utilized “initiative budgeting,” in which funds released by cross-the-board cuts are then pooled and reallocated back on a selective basis to fund specific initiatives. Examples include the Priority Fund of the late 1970s and the Strategic Initiative Fund of the late 1980s. Yet, despite these efforts, it is also the case that much of the resource reallocation occurring in the University over the past two decades has tended to follow a “squeaky wheel gets the grease” process rather than a carefully designed long-term strategy.

While there are certainly many characteristics of a university which prevent it from moving more toward the zero-base budgeting philosophies characterizing many restructured companies—tenure, for example—it is also important to consider more effective schemes for resource allocation. Important steps have been taken in recent years to move to all-funds budgeting, in which all of the resources of units are taken into account in determining their allocation of centrally controlled funds. Some units are being encouraged to move toward an “every tub on its own bottom” basis, that is, as cost-and-revenue centers. Yet, there does seem to be a need to develop better tools to allocate resources toward the priorities of the University.

Over the next few years, we hope to move toward responsibility center management in which academic, administrative, and auxiliary units of the University will retain all unit-generated revenues (e.g., tuition, research support, private gifts, and auxiliary income) with the associated responsibility of covering all unit-driven costs. Funds to support centrally provided services and subvention of key academic units will be generated through a small tax on unit expenditures. More extensive use of competitive pricing and outsourcing of services will be necessary to enable units to better control costs and streamline internal operations. This new system is aimed at three objectives:

1. to allow resource-allocation decisions to be driven by the values, core mission, and priorities of the University rather than dictated by external forces
2. to provide a framework for such decisions consisting of knowledge of the true resource flows throughout the University
3. to allow both academic and administrative units to participate as full partners with the central administration in making these resource allocation decisions

There are many issues that must be addressed in any financial restructuring plan:

1. It is clear that in the near term there are only two major opportunities for significant revenue growth for academic programs: i) tuition revenue, and ii) tapping auxiliary revenues. Over the longer term there are other opportunities such as private support, major endowment growth, new “profit-generating” academic programs, intellectual property licensing and equity interest, etc. But for the remainder of this decade, our choices are more limited.
2. While most of the focus has been on undergraduate tuition and enrollment because of the large size of the undergraduate student body, it is important to look at other issues:
 - Should we move more rapidly to equalize instate and nonresident tuition levels for graduate and professional students? This would seem acceptable in high-income professional areas such as business, law, and medicine
 - Should we rethink our financial aid strategy? Clearly, as our tuitions rise toward private levels, the financial aid required to preserve broad access will rise rapidly
 - Should we charge a different tuition level to those international students from prosperous nations which better reflect true instructional costs. Indeed, should we even attempt to generate a profit from such students, contributing to our nation’s balance of payments

- Perhaps we should completely “repackage” our prices by eliminating “financial aid” and charging an income-dependent tuition
 - Another possibility would be “unbundling” our prices, for separate fees for an array of student services, extra-curricular activities, transportation, etc
3. Beyond examining alternative schemes for allocating centrally controlled resources that are more capable of alignment with strategic objectives, we should consider other resource allocation and control mechanisms:
- Should we move more aggressively to “wean” from state appropriation those units capable of generating sufficient alternative resources to enable us to better focus these limited resources on undergraduate education and core support services such as the University Libraries
 - Clearly we need to provide units with longer-range planning capability, even if it means that our commitments of central resources are necessarily more conservative. For example, perhaps we should move to the Harvard style of requiring rolling five-year financial plans for each unit
 - As we move toward providing units with more control of resources through devices such as responsibility center management, we should consider some “recentralization” of other controls. For example, we may need to institute faculty position or billet control similar to many private institutions
 - We need to develop alternative funding models and policies for degree-granting academic programs (in which faculty tenure resides) and interdisciplinary centers and institutes. While the premise is usually that academic programs will be sustained unless there is sufficient cause for discontinuance, we should probably begin to place sunset provisions on most centers and institutes
 - In any event, we need to rethink our current program discontinuance policies which have become largely unworkable
4. One of the most critical issues facing the University involves the level of funding needed to invest in new opportunities. We must recapture some capacity to generate such venture funds. While we have generally thought of this as a form of “priority fund tax” on the General Fund, perhaps we should instead level such a tax on all funds (or expenditures) of the University, including auxiliary funds.
5. While the M-Quality program has been an important first step toward cost containment, there are clearly many difficult issues we must address in the months ahead:
- Moving to cafeteria benefits will be essential. So, too, will becoming to grips with the massive costs of post-retirement health care benefits
 - We should address the issue of staff banking sick days and vacation days and then taking these as cash payments upon retirement or resignation

- We need to come to grips with some serious under-utilized capacity issues. While most focus on the spring-summer term, we also need to rethink the extraordinary number of low productivity periods in University operations such as Christmas break and spring break (and deer hunting season). Here, we need to do better benchmarking to see how other peer institutions deal with these periods
- We need to shift more internal University operations to “OEM” status (transfer pricing) in which they are required to compete with the external marketplace for the provision of products and services

6. We need to understand better how we allocate and utilize resources within the University:

- First, we need to do better benchmarking by comparing our costs with those of institutions of comparable scale and complexity in industry, government, and R&D laboratories
- We also should take advantage of efforts underway to better cross compare costs of peer universities, e.g., the Cambridge Group efforts
- We need to understand better what the ebb and flow of central support has been to various units of the University over the past decade (or more). Who have been the big winners and losers, in terms of both General Fund and all-funds support, and why? Is there any evidence that this faculty growth has had a positive impact on the quality of undergraduate education? On closed courses? On course size distribution

Characteristics

We have noted that achieving the goal of leadership will require a careful optimization of the interrelated features of quality, size, and comprehensiveness. It will also require excellence in selected areas and innovation. While the University’s unusual combination of these characteristics has been key to its success in the past, just as it will be in the future, so too will these constrain and, to some degree, determine our future options. For example, our size will demand certain organizational structures that will rule out many of the transformation options taken by smaller private institutions. Yet the richness and diversity of our scale will also better position the University to take risks that would be unacceptable for smaller institutions.

There are many issues associated with transforming these characteristics:

1. The size of the Ann Arbor campus is an important issue. Although the enrollment of the UM-AA has remained in the range from 34,000 to 37,000 for the past three decades, various units of the University have experienced significant enrollment changes. For example, the School of Education dropped from over 3,000 students to less than 500 students during this period. Engineering increased from 3,000 to 6,000 students. While there are many reasons why major enrollment changes are difficult—tuition revenue and political reaction, for example—it is also important to reassess the optimum size of the University and its various units from a variety of perspectives, including available resources and academic vitality.

2. Although this document is primarily concerned with the Ann Arbor campus, it is also important to consider from a fresh perspective the role and evolution of our two regional campuses, UM-Dearborn and UM-Flint. The relationships between these campuses at the UM-AA campus are currently minimal. They have quite different missions, resources, and quality standards for students and faculty. Yet they do have an impact on the University, since they carry its name and they draw on the time and attention of its leadership (Regents, Executive Officers, etc.).
3. Much of the emphasis of the early 1980s was on focusing resources, on becoming "smaller but better." But in an age of knowledge in which educated people and ideas have become the wealth of nations, higher education is one of our strongest growth industries. Hence it seems clear that the University should explore a broader range of options, including possible growth in selected areas. We also must develop the capacity to consider more strategically differential growth among units (including the creation and disappearance of academic programs).
4. Included in this effort should be a consideration of new market strategies. Perhaps we need to invent new kinds of degrees. For example, perhaps we should distinguish among on-campus residential instruction, commuter instruction, and distance learning, since these are quite different educational experiences (i.e., "products") and probably should have different pricing. Indeed, many of our academic units are heavily into non-degree education such as the Executive Education program in the School of Business Administration or Continuing Engineering Education in the College of Engineering.

Organization and Governance

The current organization of the University into departments, schools and colleges, and various administrative units is largely historical rather than strategic in nature. To some degree it is more a byproduct of our incremental style of resource allocation, in which the presumption is made that units and activities continue unless a very good case can be made for doing something else, rather than because of a conscious strategy or intellectual objectives.

As we approach a period in which major, rapid transformation will be the order of the day, we must assess whether such existing organizational structures are capable of such transformations. Most evidence suggests that while these units are capable of modest internal change, they generally feel threatened by broader institutional change and will strongly resist it.

We therefore need to consider alternative structures which can not only accept and adapt to change, but to some degree, can actually stimulate it. Indeed, many companies reorganize quite frequently simply to stimulate change and fresh perspectives. We seek organizations capable of releasing the creative energies of people.

Of particular concern is the present strong department structure which organizes many schools and colleges along disciplinary lines. While such department structures serve important roles in meeting degree requirements and maintaining broadly accepted standards, they also pose a major impediment to change. They maintain a disciplinary focus which is increasingly orthogonal to the rapid pace of intellectual change and proves particularly

frustrating to faculty, students, and sponsors. They also perpetuate styles of selecting, evaluating, and rewarding people that hinder the development of a University community capable of serving a rapidly changing world. Further, they make strategic resource allocation very difficult, as evidenced by the cumbersome, frustrating nature of efforts to reduce or eliminate programs.

A number of important organizational issues must be addressed in our transformation discussions:

1. Most large organizations continue to be based upon a command-communication-control hierarchy, largely inherited from military organizations of past centuries, in which layer upon layer of middle-management is used to channel and control information flow from the top to the bottom—or vice-versa—in the organization. Yet such hierarchical organizations are largely obsolete in an information-rich environment facilitated by modern information technology which enables direct, robust communication among all points in the organization. Although efforts are underway to reduce unnecessary management layers within the University, we should think about accelerating this effort, in both administrative and academic units.
2. The structures of our present academic units are sustained by external constituents such as accrediting bodies. For example, the proliferating department structures in Medicine and Engineering are driven by professional licensing requirements. So, too, certain schools such as School of Information and Library Studies, Public Health, Education, and Social Work, exist as separate entities largely because of accreditation pressures. We need to better understand just how restrictive these accreditation requirements are, and if found to be too constraining, work with peer institutions to modify them. (For example, we have put together a group of about thirty major universities to force the engineering profession to reform accreditation policies and practices and allow far more institutional flexibility.)
3. We need to begin by rethinking the organization of the central administration of the University at the Executive Officer level. We have already taken some steps in this direction by creating “executive vice president” titles for the Provost and VPCFO to indicate system-wide responsibility, and by creating a new Vice President for University Relations. However we need to go through an exercise of looking together at the portfolio of responsibilities for the executive officers and deciding whether some rearrangement makes sense.
4. It also seems clear that our present personnel policies are antiquated and make it difficult to reorganize rapidly and reduce unnecessary bureaucracy. Beyond restructuring our policies, we might take steps to change the culture by strongly encouraging that P&A staff be rotated to new positions at regular intervals—particularly at senior levels—as a part of their career development. This action would not only loosen up the organization a bit, but it would also provide a mechanism to deal with the casualties of the Peter Principle (i.e., rising through the ranks until one gets trapped in a position where they can no longer succeed and advance).

5. Clearly we need more ability to reorganize and restructure academic units. The present program discontinuance policy is so cumbersome as to be essentially unworkable. Further, efforts have been made to extend this policy to units that it was never intended to cover such as centers and institutes or nonacademic units.
6. We need to make more use of novel organizational structures. Michigan has long been a leader in establishing interdisciplinary centers and institutes that reach across disciplinary boundaries. But we need to go further than this. We might consider building alternative "virtual" structures that draw together students, faculty, and staff. In some ways the activities proposed for both the Gateway Campus and ITIC are of this character. So too an effort might be made to establish affinity clusters that draw together basic disciplines and key professional schools—e.g., a cluster of biological and clinical sciences.
7. Since the rapid evolution of information technology has undermined the traditional organizational hierarchy, perhaps we should make more strategic use of this technology to reorganize the University into more contemporary forms. To some degree, electronic mail and computer conferencing are already doing this in an unplanned fashion. So too, the introduction of multimedia communication through efforts such as UMTV will cause even more dramatic change. But we need to be more strategic in how we redesign our activities and our organizations to take advantage of this powerful and rapidly evolving technology.

Suppose we became convinced that major reorganization of the University was necessary. How would we go about it? One approach would be a simple top-down edict. However, it is difficult for the University leadership to have sufficient understanding of intellectual issues to determine the optimum organization at the unit level. Further, such top-down reorganization, while perhaps being an efficient way to respond to the present, would just create new empires which would eventually dominate the institution and constrain change, just as the present units do.

Hence, instead of a top-down reorganization, it seems more effective for the long term to take actions that facilitate grass-roots change and reorganization driven by our best faculty. That is, we need to break the stranglehold of existing organizational structures so that the institution can evolve more rapidly along changing intellectual lines. Some actions along these lines include:

- More clearly identifying faculty appointments as associated with the University at large rather than with a particular academic unit
- Appointing our most eminent and productive faculty as "University Professors" with University-wide appointments, perhaps housed in a school, but with rewards and resources provided by the University at large
- Allocating G&A resources to units on a per FTE basis so that there are strong incentives to organize into administrative units of efficient size
- Creating more cross-cutting matrix activities and structures
- Intentionally weakening the authority of departments and schools, perhaps by imbedding them in coordinated "divisional" structures as those planned for the arts and health sciences

Intellectual

Many of the most important—and also most difficult—transformations will concern intellectual areas such as teaching and scholarship. Some examples will illustrate this:

1. It has become more and more apparent that undergraduate education needs to be changed quite dramatically. While important activities are underway at Michigan to improve the nature of undergraduate education, most of these are working within the traditional paradigm of four-year degree programs in specialized majors designed for high school graduates and approached through solitary (and, all too frequently, passive) pedagogical methods. Yet society is demanding far more radical changes:
 - For example, it is clear that in a world in which our graduates will be required to change careers many times during their lives, a highly specialized undergraduate education is quite inappropriate. Instead, more emphasis should be placed on breadth of knowledge and the acquisition of learning skills, that is, on truly liberal education. In a sense, an undergraduate education should prepare a student for a lifetime of further learning. Are we ready to face up to the fact that we have far too many majors and offer far too many courses? Can we create a truly coherent undergraduate learning experience as long as we allow the disciplines to dominate the academic undergraduate curriculum? How do we address the fact that most of our graduates are “quantitatively illiterate,” with a totally inadequate preparation in intellectual disciplines that will shape their lives such as science, mathematics, and technology
 - Perhaps it is time that we attempt to develop a rigorous undergraduate degree program that would prepare outstanding students for the full range of further educational opportunities, from professions including medicine, law, business, engineering, and teaching to further graduate studies across a broad range of disciplines from English to mathematics. Far from being a renaissance degree, such a “Bachelors of Liberal Learning” would be more akin to the type of education universities once tried to provide a century ago before the deification of academic disciplines took over our institutions and our curricula
 - As we have noted earlier, the sequential, solitary learning experiences that have characterized higher education for most of this century—i.e., classroom lectures and recitation, reading and writing, problems and examinations—are inappropriate for a generation of students who have been raised in a media-rich environment in which learning tends to be interactive and experiential (“plug and play”). Further, it is increasingly clear that the most effective learning occurs in group situations in which students learn from one another in addition to the faculty member
 - Perhaps we need to take a truly clean-sheet approach to redesigning the undergraduate experience. Some institutions are totally restructuring general education. Others are exploring moving away from the traditional four-year curriculum. Michigan should explore its own unique models

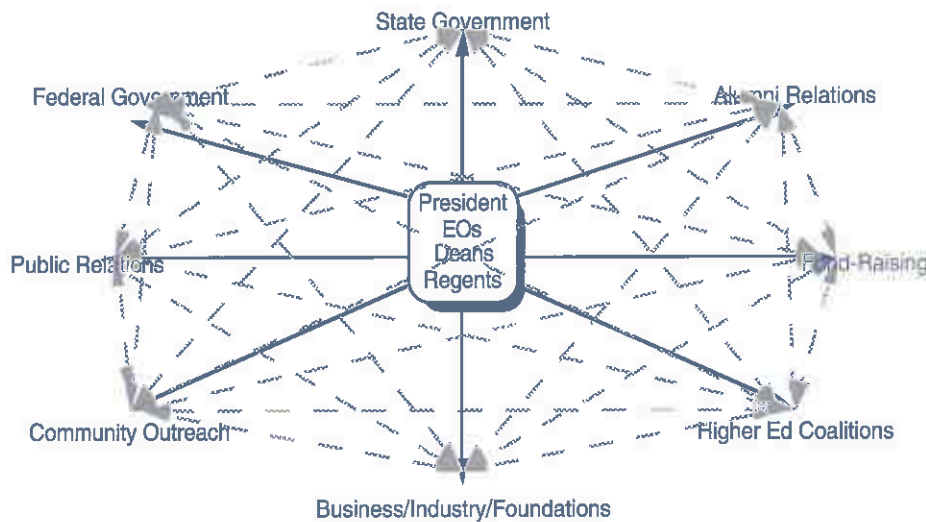
2. Much of Michigan's instructional activity is at the advanced level, in our graduate and professional programs. In general, most of our professional degree programs have been quite responsive to the changes in our society and have adapted quite well. Examples include the new curricula introduced in Medicine and Business Administration. In contrast, despite great efforts to shorten the time to degree, our PhD programs remain largely mired in the past, all too frequently attempting to clone graduate students in the mold of their faculty mentors. As our doctorate programs have become more specialized, and the time-to-degree has lengthened, these programs have also become less and less attractive to our most outstanding undergraduates. In contrast to professional degrees such as law and business which are viewed as creating further opportunities for graduates, the PhD is viewed today as a highly specialized degree which narrows one's options. Perhaps the degree itself is obsolete, and what is needed is a "liberal learning" advanced degree that would prepare graduates for broader roles than simply specialized academic scholarship.
3. One might go beyond our undergraduate and graduate degree programs and ask the more provocative question of whether degrees even make sense in a society that requires a lifetime commitment to learning. More and more of our instruction is going into non-degree learning—continuing education activities in our professional schools, short courses, special seminars. Perhaps we should focus more of our efforts on "just-in-time" education, providing learning opportunities for people when they actually need the knowledge rather than asking them to go through the rigors of a formal degree program while they are young.
4. There are many signs at the national level that research sponsors are rapidly shifting from the support of single-investigator research in the basic disciplines to research teams and centers that conduct research in interdisciplinary areas. As one of my colleagues noted, "God does not divide the world's knowledge into disciplines" . . . and neither do funding agencies. Hence, although we have considerable experience in creating centers and institutes that span disciplines, it seems clear that we must go even further. We must create virtual structures for scholarship, perhaps relying heavily on information technology, that allow faculty and students across the University—and perhaps around the world—to work closely together. We must distinguish between temporary academic structures—most of our centers and institutes—that are intended as short-lived organizations designed to address specific issues and those units with major degree obligations.
5. At the same time, information technology is also dramatically changing the way that scholars work together. For example, in the experimental sciences, faculty of the University are engaged in a number of "collaboratories" in which major experimental facilities are operated remotely by scholars around the world. Examples include satellite imaging, weather sensing, seismological studies, and high energy physics. The clear trend is toward even more such collaborative efforts so that the very high cost of major experimental facilities can be shared by many institutions.
6. Interestingly enough, our major effort to rebuild the campus gives us many opportunities to reorganize the intellectual activities of the University. For example, most of the new facilities in the Medical Center such as MSRB III and the Cancer and Geriatrics Center are highly interdisciplinary in character. So too, the ITIC complex on the North Campus is designed as an "integrative center," a "Media Union," to bring together the creative disciplines of engineering, music, art, and architecture in a media- and knowledge-rich

environment. The Gateway Campus also has the potential to serve as an integrative center for the Central Campus by uniting the entire faculty of the University in the provision of general education to lower-division undergraduate students.

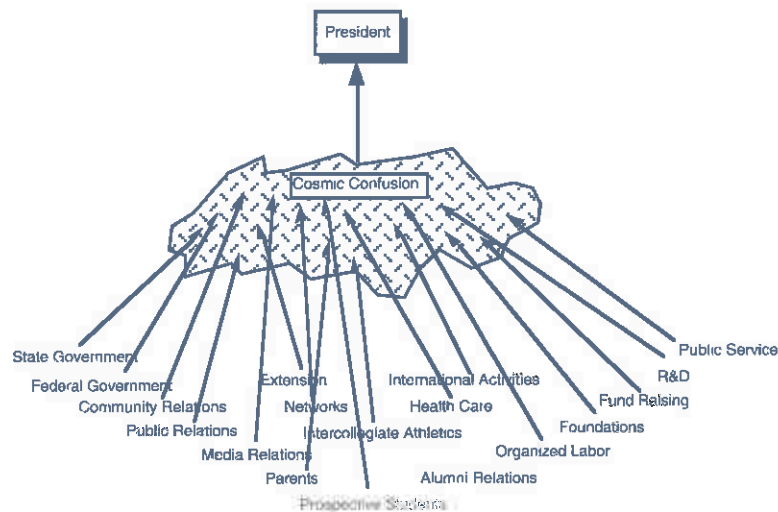
7. The State of the University Address, "Redrawing the Boundaries," given to the Senate Assembly in Fall, 1992, represented the launch of a series of actions designed to reconsider the intellectual organization of the University. Some of these have already been taken, such as the reorganization of the visual and performing arts under Paul Boylan; the construction of ITIC; the planning for the Gateway Campus; and, most recently, the announcement of a second phase of open competition for the Presidential Initiative Fund. But many more actions remain.
8. One interesting approach to breaking down disciplinary boundaries would be to identify a series of University-wide research projects addressing key societal issues that would be led by our best faculty. To preserve the interdisciplinary nature of these projects, they would receive seed funding from and report to the Vice President for Research. Examples of such projects include:
 - global change
 - urban studies
 - K-12 education
 - health care reform
 - knowledge-driven societies
 - the University college

Relations with External Constituencies

The relationship of the University with its various constituencies—students and parents, state and federal government, alumni and friends, the media, the public at large—will, of necessity, change as the University transforms itself.



As we have noted on earlier occasions, for decades our relationships with external constituencies were handled in a rather ad hoc fashion:



In recent years we have made significant progress both in strengthening our relationships with external constituencies and managing them far more strategically. But it is clear that further effort will be necessary, particularly as the University changes rapidly.

Cultural Issues

As we noted at the outset, the most important—and yet most difficult—transformation of all will be that required in the culture of the University. While one generally thinks first of the faculty culture—and, to be sure, this will be our greatest challenge—there will also be major changes required in the culture of staff and students, as these examples illustrate:

1. Clearly the culture which determines how faculty are selected, promoted, tenured, and rewarded must change as the responsibilities of the University change. Today we have a rather one-dimensional reward system: Achievement, usually measured narrowly and simplistically in terms of scholarship—primarily quantity—is rewarded through promotion and compensation. It does not reflect the great diversity in faculty roles or the ways that these roles change during a faculty member's career.
2. One of the most critical issues facing the modern university is the limited degree to which faculty members accept responsibility and accountability for their obligations to society. After all, society expects a great deal in return for providing faculty members with the perquisites of academic life—tenure, academic freedom, generous compensation, prestige. So too, faculty members have significant responsibilities to the University, although all too often these are regarded as secondary to responsibilities to one's discipline or profession.
3. There is a great diversity—and inequity—in the effort expected of faculty across the University. In some areas, faculty are not only expected to be actively engaged in teaching and research, but they also must be actively involved in delivering professional services, e.g., clinical care in Medicine or consulting services in Engineering. Many faculty are also expected to be entrepreneurs, attracting the resources necessary for their activities through competitive grants or clinical income. While this diversity in faculty roles and effort has long been an important characteristic of research universities, frequently it is not understood by either those inside or external to our institutions.
4. In many ways the traditional mechanisms used for evaluating faculty performance, for making promotion and tenure decisions, tend to discourage risk-taking and venturesome activities. The young faculty member who takes on really challenging problems or devotes considerable effort to dramatic shifts in pedagogy is very much at risk. Somehow we must create more of a "fault-tolerant" culture in which our best people are encouraged to take on big challenges. We must keep in mind the old saying that if you do not fail on occasion, it is probably because you are not aiming high enough!
5. Perhaps we should approach the challenge of changing the faculty culture as an effort to "free the faculty" from the traditional arrangements and mindsets which discourage creativity and innovation. We should encourage them to broaden their activities and become members of the University—rather than simply members of a department of a school. Here we might recall the analogy of dons in an Oxbridge college: faculty are first dons in a college with community responsibilities; they are only secondarily professors of a particular discipline.
6. As Roland Schmitt, past Chief Scientist of General Electric and former President of Rensselaer Polytechnic Institute, points out, most universities face a great challenge in getting faculty commitment to institutional goals that are not necessarily congruent with personal goals. Further, perhaps because of the critical nature of academic disciplines,

universities suffer from an inability to allocate decisions to the most appropriate level of the organization and then to lodge trust in the individuals with this responsibility. If higher education is to keep pace with the extraordinary changes and challenges in our society, someone in academe must eventually be given the authority to make certain that the good ideas that rise up from the faculty and staff are actually put into practice. We need to devise a system that releases the creativity of individual members while strengthening the authority of responsible leaders.

7. The academic tradition of extensive consultation, debate, and consensus building before any substantive decision is made or action taken will be one of our greatest challenges, since this process is simply incapable of keeping pace with the profound changes swirling about higher education. A quick look at the remarkable pace of change required in the private sector—usually measured in months, not years—suggests that universities must develop more capacity to move rapidly. This will require a willingness by leaders throughout the University to occasionally make difficult decisions and take strong action without the traditional consensus-building process.
8. Clearly, key players in any transformation process will be department chairs and unit managers. Our current management culture makes achieving major change in this lowest level of academe or administration very difficult and encourages conservative leadership and resistance to efforts to change from higher levels of management. Somehow we must change this culture by providing strong incentives to participate in the institution-wide transformation process for departments chairs and managers—and strong disincentives to simply stonewalling. Here the use of change agents among faculty and staff will be critical if we are to break through the bureaucracy and stimulate grassroots pressures for change.
9. The M-Quality program is designed to address many aspects of the staff culture. Certainly issues such as “customer service” and “total quality” are addressed through this process. But there are other aspects that may require other actions:
 - More and more companies are moving to OEM models of transfer pricing, both to reduce costs and to create the same kind of competitive spirit for providing internal services as necessary for the external marketplace. We probably should be more aggressive in requiring service units to bid competitively with external vendors and outsourcing when quality and/or cost make this advantageous
 - At times there seems to be a confusion between staff and faculty cultures. The faculty in a University is provided with great freedom—freedom of expression, academic freedom to teach and conduct research—albeit with certain expectations for accountability. In contrast, the staff is expected to perform at the high levels professional competence. They are not necessarily provided with the same degree of choice, the same discretion, as their faculty colleagues. This dual character of the University, as an academic and a professional organization, needs to be better articulated
 - We continue to have unnecessary levels of management in many areas that isolate those staff on the front line providing services from a better understanding of customer needs or the directions from the senior leadership of the institution. We must continue to work hard to eliminate these levels since they not only contribute to costs, but they also make it more difficult to lead the University

10. The student culture is changing rapidly, in part because of the new level of respect that the Office of Student Affairs has shown for students and their concerns. So too, students have been asked to accept more responsibility and accountability for their actions in return for their rights and freedom. In the past several years we have finally left behind the hangover from the 1960s anarchy, the tendency to demand rights but deny responsibility for one's actions. To be sure, there are always students who must challenge authority as part of their maturation. But by challenging students to accept both leadership and responsibility, we appear to have turned the corner in rebuilding a student culture appropriate for a great institution of learning.
11. However, it is also clear that, particularly in the undergraduate student body, there is inadequate intellectual content in extracurricular student life and particularly in student residential life. In part this is due to a long Michigan tradition of separating academic programs from student life. But, whatever the reason, it is not conducive to providing a satisfactory learning environment and must be changed.
12. Finally, we need to continue to work on building a culture of tolerance and respect for all peoples on our campus, regardless of race, ethnicity, nationality, gender, sexual orientation, or any of the other characteristics which determine the richness of human diversity. Efforts such as the Michigan Mandate and the Michigan Agenda for Women are moving us toward this objective, but we still have many challenges ahead, not the least of which is intolerance of American society itself.

Supporting Activities

The President's Vision

Key to any such transformation is an articulation of the need to change and a vision of where the change process is to lead. While the debate over specific elements of the transformation process should involve broad elements of the University community and its constituents, the vision itself should come—indeed, must come—from the President.

The case for transformation and both short-range visions (*Vision 2000*) and long-range visions (*Vision 2017*) have been articulated in a series of documents intended to serve as the foundation for this effort. Further, these documents summarize the ongoing planning effort, develop a scheme to measure progress toward goals, and sketch a plan for transforming the University.

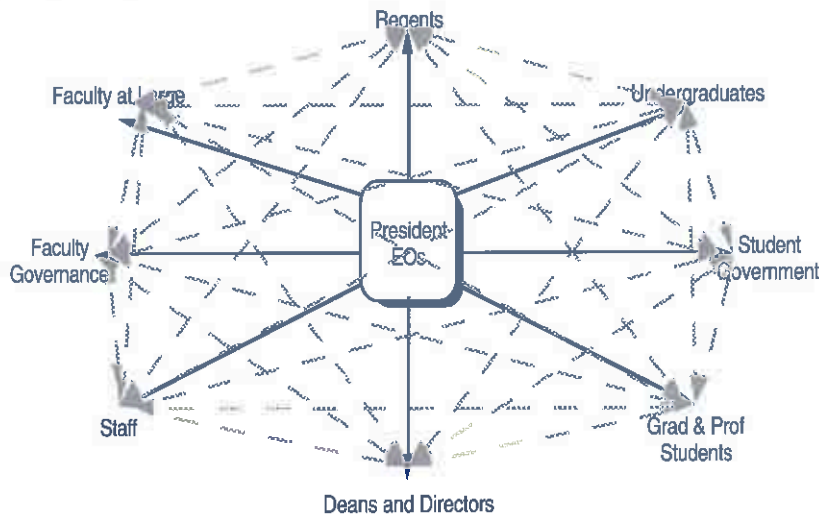
Beyond this task, the President must serve not only as the leader of the transformation effort, but also as its principal spokesman. In an academic institution, the President will serve in many ways as a teacher, explaining to various campus and external constituencies the need for transformation and setting out an exciting and compelling vision of where the transformation process will lead.

Critical to both the transformation process and the President's role is a sophisticated, effective, and strategic communications effort.

Communications

The most critical supporting activity will be communications. Of greatest importance will be internal communication, since without some understanding of goals and process, the University community will react to any transformation with fear and resistance.

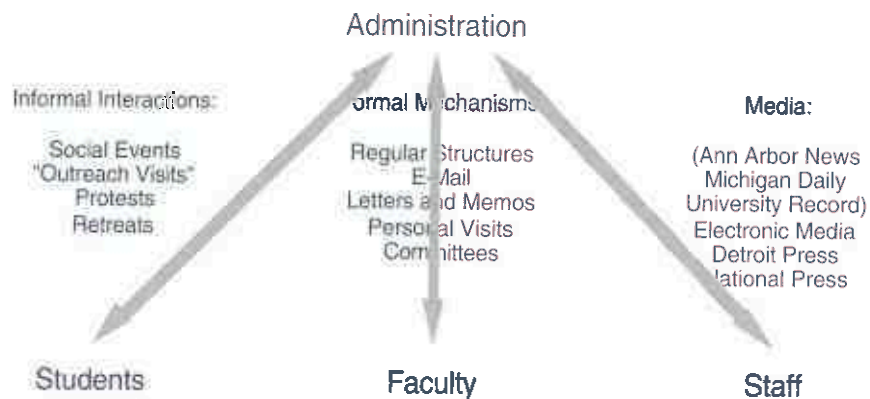
We must develop a strategic communications plan that not only strives to convey the key rationale and themes of the transformation process, but also is capable of sensing the key concerns and attitudes of various elements of the University community. In this sense, our communication efforts should be more akin to those of a political campaign—to establish the key themes and sense the mood of the electorate. Here we face the usual complexities of dealing with diverse constituencies.



Here we must take full advantage of both formal communication channels



and informal mechanisms:



So too, we must develop an effective plan for communication with various external constituencies of the University. This will be particularly challenging as the University itself continues to change.

Benchmarking and Assessment

Beyond the development of appropriate metrics capable of measuring the impact of the transformation process and the progress toward goals, the University also needs to develop a better capacity to benchmark itself against not only other peer universities, but other organizations in the public and private sector. Of particular importance will be comparisons of costs, productivity, and quality.

So too must we develop the capacity to measure attitudes both on campus and beyond. We have made a good start at developing the capacity to do polling to understand public attitudes toward the University, but we now need to develop a program of sustained polling both within and external to the University.

Some Questions and Observations

1. Why do we believe we need to restructure, to transform the University? After all, we certainly are accomplishing most of the 26-Goal Plan. Further, there are signs that the University is rapidly moving toward the leadership position proposed in *Vision 2000*. Put another way, what is the primary challenge . . . or threat? How do we denominate the types of change necessary?
2. Do our efforts to achieve Michigan's particular goals have an impact on the entire system of higher education in America (and the world)?
3. How dramatic does this transformation need to be? Will evolution suffice, or do we need revolution?
4. How rapidly should we push this transformation process, on what time scale? How rapid a pace of change can the University sustain without beginning to disintegrate?
5. Note that for change to occur, we need to strike a delicate balance between the reasons that make change inevitable (whether threats or opportunities) and a certain sense of confidence and stability that allow people to take risks. For example, how do we establish sufficient confidence in the long-term support and vitality of the institution even as we make a compelling case for the importance of the transformation process?
6. What works? What can we learn from others? Here we should not only make extensive use of internal resources such as the Change Group II, but also the experience of companies which have successfully negotiated major transformation efforts, e.g., Unisys, Chrysler, Motorola, General Electric.
7. We have an interesting example of University transformation from our own history. The late 1950s and early 1960s were a time of experimentation at the University resulting in the Residential College, the Pilot Program, and the Center for Research on Learning and Teaching. But during the 1960s this transformation became unstable and was taken over by political activism that sought not to transform but rather destroy the establishment. This illustrates the danger that arises when a change process becomes entangled with ideology and special interest agendas that divert it from the original goals.
8. Jack Welch, CEO of General Electric, makes some interesting observations about the change process. He notes that the first major challenge is getting people on board. He believes one must start with reality. Get all the facts out. Give people the rationale for change, laying it out in the clearest, most dramatic terms. In retrospect, he believes that his biggest mistake was agonizing too long over difficult decisions. He should have done everything much faster!
9. It is essential that the senior leadership of the institution buy in to the need and nature of the transformation process if it is to be successful. This may require a good deal of time for candid discussion, but in the end, all must join in and be fully committed. Further, throughout the organization we need aggressive, gung-ho leaders who are willing to take major risks to reshape the University.

10. Bill Weiss, CEO of Ameritech, notes that the best way to get people to accept the need for change is not to give them a choice. The organization has to know there is a leader at the top who has made up his mind, that he is surrounded by leaders who have made up their minds, and that they are going to drive forward, no matter what.
11. Large organizations will resist change. They will try to wear you down, or wait you out. ("This, too, shall pass . . .") We must give leaders throughout the institution every opportunity to consider carefully the issues compelling change, and encourage them to climb on board the transformation change. But if they are unable or unwilling to support it, then personnel changes will be necessary.
12. One of the objectives of this transformation process will be to empower our best faculty and enable them to exert the influence on the intellectual directions of the University that will sustain our leadership. However, here we must address two challenges: i) the obvious challenge that large, complex, hierarchically organized institutions become extremely bureaucratic and conservative and tend to discourage risk-taking and to stifle innovation and creativity, and ii) the faculty itself has so encumbered itself with rules and regulations, committees and academic units, and ineffective faculty governance that the best faculty are frequently disenfranchised, outshouted by their less productive colleagues who have the time and inclination to play the game of campus politics. It will be quite a task to break this stranglehold of process and free our very best minds.
13. Clearly, we will need significant resources to fuel the transformation process, probably at the level of 5 percent to 10 percent of the General Fund (\$40 million to \$80 million per year). During a period of limited new funding, it will take considerable creativity (and courage) to generate these resources. As we noted earlier in our consideration of financial issues, the only sources of funding at the levels required for such major transformation are:
 - tuition and fee revenue
 - auxiliary fund revenues and reserves
 - private support
14. From a more abstract viewpoint, major change involves taking a system from one stable state to another. However, the transition itself involves forcing the system into instability that will present certain risks. It is important to minimize the duration of such instability, since the longer it lasts, the more likely the system will move off in an unintended direction or sustain permanent damage.
15. While many will resist change, many others will relish it and support bold initiatives, if a convincing case can be made. It is critical that we develop an effective marketing strategy for the transformation themes, conveying a sense of confidence that we have the will and capacity to follow through, and that the University will emerge stronger than ever.
16. The University of Michigan Medical Center comprises a very significant fraction of the University's activities—roughly 50 percent on either a financial or personnel basis. Further, the UMMC is far along in a series of strategic actions designed to anticipate and respond to the rapidly changing health care environment. It is important that we coordinate our transformation plan with that of the UMMC.
17. One of the strongest characteristics of the University is its degree of decentralization and the great autonomy of its various disciplinary units. Can we achieve the necessary degree

of transformation in such a unit-based and driven faculty culture? Or will we need to take some steps to “re-centralize” the University and weaken somewhat the power of the academic units?

18. Thus far all of our **transformation** planning and proposed actions are internal. Should we also include some analysis of possible strategic alliances with other institutions—academic or otherwise? For example:

- partnerships with Michigan State in programmatic areas (possibly using distance learning rather than simply transporting students and faculty back and forth)
- alliances with peer institutions in high-cost teaching and research areas, e.g., UC-Berkeley in Business or Cornell in Engineering
- sharing of resources, such as a joint Big Ten library system
- alliances with small, high-quality liberal arts colleges in which they provide high-quality advanced students and we provide their **faculty** with scholarly experiences

Concluding Remarks

This document is intended to serve as a strawman to focus the thoughts and discussions of the University leadership as we work together to develop a transformation designed to move the institution toward *Vision 2017*. Together with other documents (*Vision 2017*, *Vision 2000*, *The Michigan Metrics Project*), it is intended to serve as the playbook for the 1990s.

Of course, as with the other documents, this is designed to be a highly organic plan that will evolve as the debate unfolds, as we learn more, and as more and more members of the University buy into both the vision and the transformation process itself.

The task of transforming the University to better serve our society, to move toward the visions proposed for the century ahead, will be challenging. It will require wisdom, commitment, perseverance, and considerable courage. It will require teamwork. And it will also require an energy level, a "go-for-it" spirit, and a sense of adventure. But all of these features have characterized the University during past moments of change and opportunity. After all, this is what the Michigan spirit is all about. This is what it means to strive to be "the leaders and best."

Appendix

An Example of Change Undergraduate Education at Michigan

As an example of the complexity and pervasiveness required for strategic initiatives to serve as the driving forces in the transformation process, consider the possible actions for transforming undergraduate education at Michigan.

Here the most significant actions have been started.

- *** The Gateway Campus
 - Physical facilities
 - Museum complex
 - Management of campus complex
 - "New U" or "U within U" concept
- *** Require all faculty of the University to become involved in undergraduate education, either through teaching undergraduate courses or supervising student projects
- ** Require all undergraduates to complete a major research or creative project under faculty supervision during their freshman/sophomore years
- *** Major curriculum redesign
 - Admit all freshmen to a general education program for first two years, with application and transfer to concentrations or professional programs (Engineering, Nursing, Music, Business, . . .) at junior year
 - Dramatically reduce number of highly specialized undergraduate degrees and course proliferation
- *** Develop a "renaissance" undergraduate degree that would provide students with sufficient breadth and depth to enter any graduate or professional field, from law to medicine, from English to mathematics . . .
- ** Provide most outstanding applicants (e.g., SATs > 1500) with dual admission both to UG programs and any of our professional schools (Law, Business, Medicine, etc.)
- Improve quality of introductory courses
- Improve living/learning environment
- Formal structures for UG education
 - CRLT
- ** "Institute for UG Education Studies"
 - (visiting faculty program)
 - Greater use of faculty research in fields such as cognitive psychology, organizational behavior, etc.

“Sweating the details ...”

Admissions
Orientation
Counseling
Financial Aid
Other Student Services
Goals:

Customer satisfaction
Quality
Effectiveness
Cost

- ** Computer/communications environment
 - Computing clusters
 - Rescomp program
 - Internet
- ** U-MTV
- *** Shift faculty from “teachers” to “designers” of
 - environments for learning
 - processes for learning
 - experiences for learning
- ** Shift from “solitary” to “collective” learning experiences
- Use of “peer” (undergraduate) teachers
- Build a stronger merit scholarship program to attract the very best students
- Expand the opportunity for student participation in
 - varsity athletics
- The environment for learning
 - Campus safety
 - Substance abuse
 - Transportation
 - Student rights and responsibilities

Clearly we are doing many of these things already, e.g., improving the quality of introductory courses or rebuilding key physical facilities such as the Shapiro Undergraduate Library (SUGL). Some of these actions are natural objectives, such as the Total Quality Management (TQM) effort to improve academic and student services.

But some of these actions would be far bolder and could really energize the place while re-inventing the paradigm of a Michigan education, e.g., requiring every faculty member in the University to become involved in lower division undergraduate education or shifting faculty from teaching to “designing” roles.

For each such strategic initiative, we need to identify a highly focused action that will trigger the necessary dynamics at the grassroots level to ignite the change process. In the undergraduate education example, suppose that, following discussion with key constituencies including Deans, and distinguished faculty, the Regents would adopt the following University policy:

- All faculty members of the University would be expected to teach at least one lower division undergraduate course every three years (including freshman seminars) or supervise undergraduate research/creative projects
- All undergraduates would be expected to complete a research or creative project (amounting to roughly three credit hours) under the supervision of a faculty member as a requirement for graduation

Here the first requirement would amount to a redefinition of the role of a faculty member at the University, since it would clearly state that every faculty member, regardless of appointment, would be expected to have some involvement in undergraduate education. This would also create a common educational experience for the entire University faculty and be a step toward linking together the fragmentation caused by focusing all teaching and scholarship within the disciplines.

So too, the second requirement for students would be regarded as supplementing all existing degree requirement and would not replace any current curricular requirements.

Clearly such a step would have great impact on changing the culture of undergraduate education at Michigan and would prepare the way for the more profound changes being considered for the Gateway Campus. Furthermore, it would give the University very high visibility at the national level. The most serious downside risk would be the possible weakening of our faculty recruiting and retention efforts in some of the professional schools.