

## **Alumni Talk--Short**

### **Images of Michigan**

Fall in Ann Arbor...

Bright football weekends...

Students walking across the Diag, the Engineering Arch,  
the Blue Front...

Or, perhaps, an image of roses...

Michigan...the nation's flagship of  
public higher education, a tradition of excellence

### **Yet University is undergoing rapid change**

Not in quality

of students, faculty, and programs

nor in its commitment to excellence

But in some of its other characteristics:

In its leadership, of course...

Its president, chief financial officer,...

even its athletic director...

its physical plant...

\$700 M in construction over past 5 years...

Medicine, Engineering, Business, LS&A

Information technology

Computer access, telecommunications,  
supercomputers, the "electronic" university of  
tomorrow...

Its faculty

"Impacted wisdom group" is now beginning to  
retire...

Will see major change over next decade

(examples: both Business and Engineering  
have seen over 60% of faculty change in  
past 5 years)

its funding base...

Most interesting experiment in higher education...

less than 20% State (\$240 M in \$1.4 B)

Rest comes from tuition, research, and private support

its attitude toward the world beyond the ivory tower...

Revised policies to encourage rather than constrain

Intellectual property policy which now allows faculty  
to petition UM for ownership

MRC, ITI, CMI, Health Care, NSFnet

and in its basic philosophy...

Note: We are changing, not so much in an effort to respond  
to external pressures...but rather to position ourselves  
to take advantage of some extraordinary opportunities.

We are attempting to seize control of our destiny, to determine a  
direction and a strategy to take us into the 21st Century.

We believe that Michigan faces a period of unusual  
opportunity, responsibility, and challenge in the  
years ahead.

Let me explain...

### **Introduction**

As many of you know, I am a scientist by  
training and background...indeed, I  
am perhaps the worst of all types of  
scientists...a burned-out theoretical physicist.

I must also confess I tend to be one of those  
people who lives more in the future than in  
the present or the past...

I can remember that...

in the 1960s I was working out at Los Alamos  
on nuclear rocket engines designed to

power the first manned mission to Mars...  
in the 1970s I was working in an exotic  
area known as laser-induced thermonuclear  
fusion in which we were attempting to use  
super high powered lasers to compress  
matter to the incredible densities and  
temperatures found in the center of stars..  
and create tiny thermonuclear explosions  
in the laboratory, hence providing a  
limitless source of power...  
in the 1980s I refocused my efforts on  
building an Engineering College which I  
believed could trigger a major economic  
resurgence in this state...  
developing key high tech areas such as  
robotics, artificial intelligence, microelectronics,  
and computer technology  
And, now, entering the 1990s, I find myself  
looking once again to the future, facing  
the challenge of helping Michigan become  
the model of a University for the 21st Century...

### Some Futuring

As they say in the jargon of planning, I've been  
spending a good deal of time "futuring"...gazing into the  
crystal ball in an effort to determine just where our university  
should head in the years to come.

To use this as an opportunity to gaze into the  
crystal ball...to look not just at the year ahead...  
but down the road 10, 20, 30 years or more...  
to consider the possibilities for our University...  
what it is...what it could become...  
indeed, what it must become...

I should say at the outset of this process of "futuring"  
that I believe the University faces  
a period of unusual challenge and responsibility in  
the years ahead...but also a time of exceptional  
opportunity and excitement.

In my roles over the past 20 years, first as a faculty  
member, then as dean, and most recently as provost,  
have become increasingly convinced that the University  
today faces a pivotal moment in its history...  
a fork in the road...

Taking the path in one direction will, with dedication  
and commitment, preserve the University as a distinguished--  
indeed, a great--university, but only one among many such  
institutions.

However there is another path...a path that would  
require great vision and courage in addition to  
dedication and commitment...in which the University  
would seek not only to sustain its quality and  
distinction, but it would seek to achieve leadership as well.

I believe the University could...indeed **should**...  
embrace its heritage of leadership in public higher education...  
that the 1990s and beyond could be a time similar to that  
extraordinary period in the late 19th century when the  
University of Michigan was a primary source for much of  
the innovation and leadership in higher education.

And what more exciting mission could we have than to accept  
this challenge by striving to develop a new model of  
the research university capable of responding to the changing  
needs of our state and our nation...

## Themes of the Future

Think about it for a moment...

The students we are educating today will spend most of their lives in the next century...they will be citizens of the 21st Century...

Yet we, their educators, are very much products of the 20th Century...

And our institution, the university of today, is in reality a product of the 19th Century!

The way we are organized into departments and colleges...our sequential approach to education... even the concept of courses and credit hours... all were introduced over a century ago.

And yet the American society we serve has changed dramatically during the past century and continues to change at an ever accelerating pace.

It is therefore both appropriate and important to ask the question:

Is the University as we know it today really prepared to educate the citizens and serve the society of the 21st Century?

While it is always dangerous to speculate about the future, three themes seem very clear:

i) It will be future in which our nation becomes a truly multicultural society, with a cultural, racial, and ethnic diversity that will be truly extraordinary in in our history...

By 2000, one-third of college age students will be Black or Hispanic...

By 2000, 47% of our school children (K-12) will be Hispanic or Black (today 25% are)

In the second half of 21st Century, Hispanics will likely become the largest population group in The United States

Those groups we refer to today as minorities will become the majority population of our nation in the century ahead...just as they are today throughout the world.

In this future, full participation of currently underrepresented minorities will be of increasing concern for reasons of equity and social justice.

But, in addition, this objective will be the key to the future strength and prosperity of America, since our nation cannot afford to waste the human talent represented by its minority populations.

If we do not create a nation that mobilizes the talents of all our citizens, we are destined for a diminished role in the global community, increased social turbulence, and most tragically, we will have failed to fulfill the promise of democracy upon which this nation was founded.

### **What are the implications for Michigan?**

Many of us have become firmly convinced that for Michigan to achieve excellence in teaching and research in the years ahead, for it to serve our state, our nation, and the world...we simply must achieve and sustain a campus community recognized for its racial and ethnic diversity.

We believe the University has a mandate to build a model of a pluralistic, multicultural community for our nation...an environment which is supportive of all individuals, regardless of race, creed, national origin, gender, or sexual preference...

Which values and respects and indeed, draws its

intellectual strength from the rich diversity of peoples of different races, cultures, religions, nationalities, and beliefs.

It seems apparent that we cannot sustain the distinction of our University in the pluralistic world society that is our future without intellectual diversity and an openness to new perspectives and experiences.

Our challenge is not to make one group from many, to blend together all cultures into a homogeneous mixture...but to build from many varying cultural, racial, and ethnic groups a truly multicultural community in which we are bound together by a common core of values and beliefs.

In a very real sense, in our effort to build the multicultural university of the 21st Century, we are attempting to address the most urgent and difficult issue confronting our nation today.

- ii) It will be a future in which America will become "internationalized"... in which every one of our activities must be viewed from the broader context of participation in the global community... as America becomes a "world nation", with ethnic ties to every part of the globe...

The fact is, a truly domestic US economy has ceased to exist. In slightly more than 5 years, US trade deficit has taken us from the world's largest creditor to its largest debtor nation.

US is the destination of about half the world's immigrants Probably 10 million this decade alone...

One-third of annual population growth is immigration

The United States is evolving into the first true "world nation", with economic and ethnic ties to all parts of the globe.

The growing internationalization of America suggests that understanding cultures other than our own is necessary not only for personal enrichment and good citizenship in the global community, but indeed, necessary for our very survival as a nation...

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

#### **What are the implications for Michigan?**

Among the University's many responsibilities and priorities, one therefore must rank high our responsibility to develop and sustain programs which reflect this international perspective.

It is true that this University has a long tradition of involvement in international activities...indeed, our academic programs, our relationships with institutions abroad, the international representation among our students and faculty...all contribute in important ways to our institution.

If the UM is to fully participate in an increasingly interdependent world, it must begin to think more imaginatively, more aggressively, and more strategically about how to strengthen our role as a true international center of learning.

- iii) It will be a future in which we rapidly evolve from a resource- and labor-intensive society to a knowledge-intensive society, in which intellectual capital...educated people and their ideas...become the keys to our prosperity, security, and well-being.

Looking back over history, one can identify certain abrupt changes, discontinuities, in the nature,

the very fabric of our civilization...

There are many who contend that our society today is once again undergoing such a dramatic shift in fundamental perspective and structure.

Today we are evolving rapidly to a new post-industrial, knowledge-based society, just as a century ago our agrarian society evolved through the Industrial Revolution.

Our economy is switching steadily away from material and labor-intensive products and processes to those which depend upon knowledge as their primary ingredient.

A transition is occurring in which Intellectual capital--brainpower-- is replacing financial and physical capital as key to our strength, prosperity, and social well-being

New ideas and concepts are exploding forth at ever increasing rates...

We have ceased to accept that there is any coherent or unique core of wisdom that serves as the basis for new knowledge...

We've seen simply too many instances in which a new concept has blown apart our traditional views of a field...

We are increasingly surrounded by radical critiques of fundamental premises and scholarship...

There is also great intellectual change and ferment...

In many fields, the knowledge base is doubling every few years...

The typical college graduate of today will likely change careers several times during a lifetime...

Hence a college education will only serve as the stepping stone to a process of lifelong education... and the ability to adapt to...indeed, to manage change...will become the most valuable skill of all.

#### **What are the implications for Michigan?**

As our society becomes ever more knowledge-intensive, and hence ever more dependent upon educated people and their ideas...

It will become ever more dependent upon research universities such as Michigan since we are one of the primary sources both of new knowledge and those who can apply it...

This will provide us with some unusual opportunities and responsibilities in the years ahead...as we are increasingly viewed as key players in the age of knowledge that is this nation's future.

It is my belief that these themes of pluralism, internationalization of America, and our evolution to a knowledge-intensive society will not only dominate the future, but will create a time of unusual challenge and responsibility, opportunity and excitement for this University.

#### **The Need for a New Paradigm**

The future will indeed be a time of great challenge as we attempt to serve the pluralistic, knowledge-intensive, world nation that will be The United States of the 21st Century.

Many of us are becoming convinced that higher education in America will be facing a period of challenge and change similar to that of a century ago, when the great land-grant universities were

born in a response to the industrial age...and in a response to a profound democratic impulse to extend the benefits of learning to all of society.

Indeed, many in recent years have suggested that there is a need for a paradigm shift in the nature of higher education in the years ahead.

But I suspect that such a change in the paradigm of the research university will not be gradual and evolutionary... but rather of a more dramatic and revolutionary nature.

Further, rather than the paradigm serving as a model simply to permit replication, the new paradigm of the research university for the 21st Century will clearly be an object for further articulation, specification and refinement as the pace of change in our society accelerates.

And this will require, perhaps more than at any time in the recent history of higher education unusually strong leadership...leadership capable of identifying and articulating an exciting, challenging, and compelling mission for our institutions and then uniting our university communities...and those who support and depend upon us...in a common effort to pursue this mission.

### **A Heritage of Leadership**

Who will determine the new paradigm for the research? university in America?

Who will provide the leadership?

Why not the University of Michigan?

After all, in a very real sense, it was our University that developed the paradigm of the public university capable of responding to the needs of a rapidly changing America of the 19th century... a paradigm that still dominates higher education today. In a sense, we have been throughout our history the flagship of public higher education in America.

Although Michigan was not the first of the state universities, it was the first to free itself of sectarian control and become a true public institution, governed by the people of the state.

From its founding, Michigan was identified with the most progressive forces in American higher education...

First to blend the classical curriculum with the German approach stressing faculty involvement in research and dedicated to the preparation of future scholars.

First university in the West to pioneer in professional education, starting the Medical School in 1850, the Law School in 1859, and engineering courses in 1854

Among the first to introduce instruction in zoology and botany, modern languages, modern history, American literature, pharmacy, dentistry, speech, journalism, teacher education, forestry, bacteriology, naval architecture, aeronautical engineering, computer engineering...and even in my own field, nuclear engineering (with the associated Michigan Memorial Phoenix Project)

I believe that today our University is once again in an excellent position to assume a role of leadership in higher education... to develop a new model of what the research university must become to serve 21st Century America...

Several characteristics of the University suggest this role of leadership:

1. **Reputation** as the flagship of public higher education  
A large, comprehensive, public, research university  
A serious commitment to scholarship

Unusual breadth, rich diversity of academic disciplines,  
professional schools, social and cultural activities...  
...our intellectual pluralism...

Unusual degree of participation of faculty and students in  
University decisions

Indeed, throughout its history, Michigan has been known for  
a spirit of democracy and tolerance among its  
students and faculty.

Harper's Weekly (1860):

"The most striking feature of the University is the  
broad and liberal spirit in which it does its work."

### 3. **People**

A faculty of great intellectual strength and unusual breadth  
Student body of quality unsurpassed by any public institution  
And, of course, that marvelous army of maize and blue alumni...  
over 300,000 strong...indeed, one of every 1,000 Americans...  
with a deep commitment to this institution.

### 4. **Resources**

While it is true that state support has not been strong in  
recent years, we nevertheless benefit from  
an unusually broad and balanced base of support  
from both the public and private sectors.

### 5. **Ability to control our own destiny**

Finally, we must never underestimate the importance of the  
fact that the University was created by the State  
Constitution itself...which establishes our Board of Regents  
as a coordinate branch of state government, with  
authority over the University exceeding that of the  
legislature, governor, and judiciary.

In a sense, we are almost unique among public institutions  
in having the ability to control our own destiny...

It is this rich set of characteristics that could well position  
the University to assume once again the leadership  
role it played in the 19th century by developing the  
new model for higher education appropriate for the  
needs of our state and nation in the 21st Century.

## **A Call for Action**

But if we are to be successful in defining and achieving  
a mission of leadership in higher education, we  
will need far more than these characteristics.

Let me suggest several of the most critical themes:

#### 1. The Commitment to Quality

Of course, one of the canonical invariants, the constants  
of the motion, that will allow us to respond to a future  
of change is an unrelenting commitment to academic  
excellence and scholarly values.

This will require that we also commit ourselves to focusing  
resources to achieve excellence...since in a future  
of limited resources, quality must inevitably dominate  
the breadth and capacity of our programs.

#### 2. Diversity, Pluralism, and Multiculturalism

I have mentioned this theme earlier, but it is so  
essential that I feel obliged to return to it  
once again.

It is imperative that the University recognize  
the importance of racial and cultural diversity  
and pluralism to achieving our objectives of  
excellence in teaching, research, and service.

We draw great strength from diversity, from the  
new intellectual perspectives and richness of  
diverse cultural expressions and experiences.

We simply will be unable to sustain the distinction of our university in the pluralistic world society that is our future without reflecting this diversity in our intellectual activities and in the people who comprise our campus community.

### 3. The Challenge of Change

We face a future in which permanence and stability will become of less importance than flexibility and creativity... in which the only certainty will be the presence of continual change...

Just as with other institutions in our society, those universities that will thrive will be those that are capable not only of responding to this future of change...but, indeed, have the capacity to manage and control change.

I believe that it was Burke who said that:

"A state without the means of change is without the means for its preservation"

I believe this is to be true for all institutions in our society ...and for universities in particular.

One can argue that such renewal and change are essential both for the achievement and the sustaining of excellence.

To get better, we must seek a culture in which creativity, initiative, and innovation are valued.

To this end, we must build a secure environment on this campus that can sustain change and risk-taking and even failure.. as they say in computers, a "fault-tolerant" environment... since the safer you can make a situation, the higher you can raise the challenge.

### 4. A Return to Fundamental Values

Let me suggest, that as we contemplate the various actions necessary for leadership in higher education, we would do well to recommitment ourselves to sustaining the most fundamental values of the University.

For while change and renewal will be important themes of our future, they can only occur upon a solid foundation of institutional values.

Of course, academic institutions usually focus first on intellectual values...characters of the mind....

The seeking of wisdom  
Freedom of inquiry  
Intellectual integrity  
Discipline of the mind  
Respect for reasoned conclusions  
Democracy and justice

While these are essential in any university, there are also other sets of values which we must not ignore:

Values of moral character such as:

Honesty  
Integrity  
Courage  
Compassion

Values of a civilized society:

Tolerance and mutual respect  
Collegiality, civility, and community

### 5. The Important "Cs":

Let me focus a bit on these all-important "c-values"...

Caring and concern and compassion  
Cooperation and communication and civility



Since these are the values that pull us together as  
a community.  
As the pace of change accelerates and its direction  
becomes less predictable, forces inevitably develop  
which tend to pull us apart--which trigger  
misunderstanding and conflict.  
And yet the challenges we will face in the years ahead  
require us to pull together as a scholarly community.  
It is desperately important that we seek the themes  
and mechanisms capable of uniting us--and resist  
those which drive us apart.  
This is a particularly important in universities...  
In these intensely people-dependent institutions  
we have long accepted the premise that the key  
to quality is attracting and retaining the most  
outstanding students, faculty, and staff,  
providing them with the environment and  
encouragement to push to the limits of their  
abilities...and then getting out of their way!  
However, in striving for a culture  
Which stresses excellence and achievement,  
we also run the risk of losing that sense of  
collegiality, that sense of a scholarly  
community, that will, in the end, determine  
our capacity to face the challenges ahead.  
A challenge of the modern university is to find in  
our history and tradition those values that unite  
us and to renew our commitment to these values  
in such a way that they shape our future.  
We must strive for a true sense of an academic community  
in which the human mind is brought boldly to  
bear on the most enduring questions that  
confront us.

### **The Role of Alumni and Friends**

To the University

A university achieves greatness through its people...  
through their talents and abilities...  
their involvement and commitment...  
But it is important to recognize that the "community" that  
comprises a university extends far beyond its students,  
faculty, and staff...  
Rather this community extends outward...  
beyond our ivy-covered walls to embrace our alumni  
and friends...  
it also extends backward in time...to include that long  
line of maize and blue that have build and sustained  
the distinction of this University...  
I might even suggest that this community extends into  
the future...through those families...many of them already  
associated with the University.. that will produce the  
students and faculty for this institution in years to come

A key factory in the strength of the University...  
active involvement by alumni

Not just for financial support...  
although you can expect to hear from us even more  
frequently

Not just for your efforts in directing outstanding  
students to Ann Arbor -- many of them your own children  
or grandchildren...

Not just for influence...  
although since Michigan produces leaders, many of alumni

have the opportunity to have major impact on UM through  
their roles as leaders of government or industry  
But beyond that, through your active involvement...  
to provide to our students a sense of potential, what the  
future holds in store for them...  
for our faculty, since by buying in to what we are trying  
to do, you provide them with strong evidence of the  
profound importance of their activities  
In a sense, our alumni and friends play the key role  
in passing the torch...  
in passing from one generation to the next the  
Michigan tradition...the tradition of excellence  
which we all cherish so deeply.

### **The Hazards of Predicting the Future**

In conclusion, my crystal ball suggests a future of  
challenge and responsibility, opportunity and excitement...  
As the United States becomes a pluralistic world nation, intensely  
dependent upon knowledge--upon educated people  
and ideas--and hence intensely dependent upon  
these marvelous, mysterious, and complex institutions  
we know as research universities.  
How of much of this particular vision of the future will  
actually come to pass?  
Will the themes of pluralism, internationalization,  
and knowledge really dominate our future...  
To be sure, change is not a predictable process..  
There is always a hazard to predicting the future...  
But then I always remember that old saying  
"The best way to predict the future is to invent it!"..  
And isn't that, after all, just the role of the University...  
the job of inventing the future?...  
Remember once again that fork in the road...  
one path leading to a preservation of the University  
as a great university...but only one among many...  
the other path leading not only to distinction but  
to leadership...  
I believe that we should take this second path...  
that we should summon the vision and courage...  
the dedication and commitment...to accept our  
heritage of leadership in higher education...  
I believe that the 1990s and beyond can be a time  
similar to the late 19th century when the  
University of Michigan was a primary source  
for much of the innovation and leadership in higher  
education in this nation.  
And what more exciting mission could we have than to accept  
this challenge by striving to develop a new model of  
the research university capable of responding to the changing  
needs of our state and our nation...  
The challenge of making the University of Michigan the model  
for the University of the 21st Century.