

## **Congressional Breakfast (3/1/90)**

### **Comments**

Final Four

Baseball

### **Personal 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.

As such, I suffer from two character flaws:

i) First, I tend to a bit too candid in my remarks...

...I generally tell it like it is...

...or at least how I think it is...

ii) Second, I tend to be one of those folks who lives more in the future than in the present or the past...

My life as a scientist and engineer has been spent working on futuristic areas such as:

i) Nuclear rocket propulsion

ii) Laser-driven thermonuclear fusion

iii) Supercomputers

iv) robotics and artificial intelligence

Hence, perhaps it is natural that as we enter the 1990s, I should find myself looking once again to the future, facing the challenge of helping to build a University capable to serve our state and our nation in the 21st Century.

### **The Challenge of Change**

At the University of Michigan we are preparing to meet the challenges of the 21st century-- an ever-accelerating pace of change in our society, in our state, in our nation, in our world.

As we become ever more diverse, more pluralistic as a people. Indeed, almost 90% of the new entrants into our workforce during the 1990s will be people of color, women, or immigrants.

As our economy and commerce are become ever more interdependent with other nations as the United States becomes a world nation, a member of the global community -- as this past year's events in China, Russia, and Eastern Europe make all too apparent.

And as we rapidly evolve into a new post-industrial society, in which the key strategic resource necessary for prosperity and social well-being has become knowledge itself, that is, educated people and their ideas.

### **Michigan at the Crossroads**

Needless to say, the pluralism, the globalization, and the age of knowledge that comprise our future will pose great challenges and demand profound changes in our state and our nation.

The impact of these changes are already painfully apparent to Michigan's workers and industries.

In fact, it is here in Michigan...in the heart of the "Rust Belt" that the impact of these extraordinary changes are most clearly seen...and felt.

We all know that past decade was a period of great difficulty for our state... Industries of great economic importance to our

nation such as steel and automobiles have  
fallen victim to intense competition from abroad...  
Plants have closed...we still have many people chronically  
unemployed...or under employed  
Indeed, Michigan's per capita income has now dropped below  
the national average...  
Michigan has dropped to 20th in per  
capita income (and at \$15,393 is now  
slightly behind the national average  
of \$15,481)  
Our unemployment rate consistently is at the  
top...  
And, soon, if we are not careful  
our prison population will be as well...  
It is clear that our state is in the midst of a profound transition...  
...from an industrial economy based upon the abundance  
of natural resources, unskilled labor, and, to some degree,  
constrained, slowly moving domestic markets...  
To a knowledge-based economy, characterized by intensely  
competitive world markets, rapid change, and--most  
important of all--educated people and their ideas.  
This has not been...and will not be...an easy transition to make.  
The truth is that the outcome is still very much in doubt!  
We have come to a critical turning point.  
Whether we will emerge from this transition as a  
world economic leader once again...with a  
strong, prosperous--albeit new--economy  
producing jobs and improving our quality of life.  
Or whether we will fail to heed the warnings...  
...to make the necessary investments and  
sacrifices today necessary for strength and  
prosperity tomorrow...  
And become an economic backwater in the century ahead.  
My central point is that education, broadly defined, will  
be the pivotal issue in determining which of these two  
alternative futures will be Michigan's...and America's.  
Indeed, I am absolutely convinced that the dominant issue of  
the 1990s will be the development of our people and the  
education of our youth.  
Previous economic transformations were closely associated  
with major public investment in infrastructure such as  
railroads, canals, electric networks, and highways.  
I believe that the coming economic transition, an equivalent  
infrastructure will be an educated population.  
We simply have to dedicate ourselves to improving education  
for every child in Michigan--not only in our universities,  
but at all levels.  
Our people are our strength...  
...our children are our future.  
Hence the challenge before Michigan is the  
challenge before America...  
And the actions we must take...  
...and the investments we must make...  
...will clearly determine our capacity to  
respond to this future...

### **The Good News and the Bad News**

#### **1. America's Strength...and Weakness**

In December I attended a conference of the top scientists,  
government officials, and CEOs from a number of nations  
throughout the world. The CEO of Nissan pointed out  
that following an extended visit by a number of senior

Japanese officials, they asked the group what they felt the greatest strength and weakness of the US were:

They were unanimous in their conclusions:

America's greatest strength was our research universities.

Our greatest weakness was public education at the primary and secondary level.

Quite a paradox, isn't it?

Quite a challenge!!!

## 2. BHEF

Two weeks ago I attended the annual meeting of the Business-Higher Education Forum in Tucson, an organization comprised of 40 of the nation's top CEOs and 40 university presidents.

During this meeting the CEOs stated their belief that the quality of public education in America was the most serious crisis this nation had faced since WWII!

And yet this is a crisis about which there is little public awareness, must less public consensus.

## 3. Growing Pessimism

In my frequent interactions with the leaders of the public and private sectors throughout this nation I detect an increasing sense of pessimism about America's will and capacity to take the actions necessary for our future.

Indeed, many now believe that that our nation is well down the road toward "outsourcing" its knowledge resources--just as we have been our labor, our manufacturing, our products--since American industry can not only depend on domestic knowledge resources--that is, a well-educated labor force or an adequate supply of scientists, engineers, and other professionals.

- i) There is increasing pessimism that the staggering problems facing K-12 education can be overcome on the time necessary to preserve our economic strength.
- ii) Further, despite the fact that most other nations regard higher education as our greatest strength, there is little sign that this view is shared either by our elected political leaders or the public at large. Indeed, it has become fashionable to attack our universities, even as we continue to seriously underfund them.
- iii) The rapid growth of "transnational" companies which seek resources, whether they be labor, processes, or knowledge--wherever they can get them at highest quality and lowest price--suggests that outsourcing of knowledge from other parts of the world will become increasingly common as the quality of American education deteriorates.

This is truly a frightening prospect. Industry has already outsourced labor and manufacturing.

Can we afford to lose its competitive capacity to produce knowledge as well?

Let's face the facts, people...

We're not going to be rich and prosperous if all we do is mow one another's lawns.

Or, more to the point, engaging in financial gymnastics such as leveraged buyouts financed by junk bonds...

We have to bring something to the table of the international marketplace.

We have to generate our wealth...through our people...their knowledge and their skills.

In the pluralistic, knowledge-intensive, global future that is our destiny, it is clear that the quality of and access to

...education in general

...higher education in particular

...and great research universities

such as the University of Michigan

and its sister institutions

most specifically of all...

are rapidly becoming the key determinants of the strength and prosperity of our state.

The good news is that Michigan is well-positioned from this perspective, since over the decades we have built not only one of the finest systems of public higher education in the world, but we now possess several of the world's leading research universities.

### **The Many Michigans...**

Part of the difficulty here is that our universities have become so complex, serving us in so many ways, that it is difficult to comprehend the central role they play in our lives.

What images come to mind when you hear the words "The University of Michigan"

For example, when you hear the words

"The University of Michigan",

you probably think first of those traditional college images:

- Great faculty challenging and exciting students in the classroom..
- Students studying in our many libraries
- Scientists toiling away late in the evenings in our laboratories.....stiving to understand the universe
- Scholars pouring over ancient manuscripts in our collections of antiquity

But there are other images that, in many ways, better reflect the extraordinary impact that the university has on our everyday lives.

There is the Michigan of those marvelous Saturday afternoons in the fall as 105,000 fans cram into Michigan stadium to watch the Wolverines... or the pride you felt when Michigan won the NCAA championship in one of the greatest Cinderella moments in sports.

Perhaps you think of the Michigan of the Big Chill...

The tradition of student involvement helping to awaken the conscience of a nation...

Or Michigan of the arts...

Attracting to our state some of the most extraordinary performers of our time...

Bernstein, Horowitz, the Grateful Dead...

There is also the caring Michigan as seen by the over 750,000 patients each year who are treated by the UM Medical Center,

Or the Michigan as Silicon Valley East, working to build the high-tech infrastructure necessary to create new companies and new jobs...as evidenced by the \$5 B industry in industrial automation now building up in the Ann Arbor-Detroit-Warren crescent...

Or the Michigan which attracts to our state almost a quarter of a billion dollars of federal R&D each year...not to mention many of the world's leading scientists and engineers

Or the Michigan of the "cutting edge", which conducts the research that changes our lives... as evidenced, for example, by announcement earlier this month that a Michigan team had identified and cloned the gene responsible for cystic fibrosis, thereby opening up the possibility of saving thousands of lives every year.

Or Michigan as the University of the World... Long reknown as a truly international center of learning... Whether it be through our great area studies programs the China Center, producing advisors to presidents... Japanese Studies, Southeast Asian Studies Russian and Eastern European Studies Or our alumni throughout the world...

Or the Michigan of outer space... ...Apollo 15...the Michigan mission to the moon... ...which not only established the first UM Club in space... ...but named a crater after Michigan on the moon.

And, of course, there is the Michigan as the educator, attempting to provide, in the worlds of one of our first presidents "an uncommon education for the common man" an education as good as any available in the world for all citizens, regardless of race, creed, and socioeconomic background ...to over 340,000 living alumni throughout the world... ...150,000 in our state alone.

It is important to note these different perspectives of the University because all too often we tend to think of these marvelous and complex institutions in one-dimensional images that reflect only our particular interests or needs of the moment... ...when we read about student unrest on our campus... ...or open the tuition bill for our son or daughter... ...or see Michigan get two kickoffs run back on them by Notre Dame...

In fact, perhaps the best way to think of a university is to recognize that our primary role is "to invent the future"... ...through the knowledge discovered on our campuses... ...and the graduates we educate that can carry forth this knowledge and apply it to society.

### **Challenges before America**

Few realize the the ever-accelerating pace of change in our nation...and in the world!

In the knowledge-intensive future that is our destiny it seems clear that education in general... ...higher education in particular... ...and the research university most specifically are rapidly becoming the key ingredients determining the strength, prosperity, and social-well being of our nation.

Just think of the challenges which cry out for attention

- the plight of our cities,  
the development of an underclass  
polarization of American society
- greenhouse effect and global change
- international competition  
Pacific Rim or Europe 1992
- health care: cancer, heart disease, AIDS
- new frontiers: outer space  
or spaceship Earth

But the greatest need of all is for leadership  
and this is the University of Michigan's  
great contribution to America...  
...through its teaching, research, and service  
...through its graduates and their achievements  
Indeed, leadership is both  
our heritage  
and our destiny!

#### **How we can help you...**

We view UM as an important resource to state...  
...and also its congressional delegation

We hope you view us as a resource...

To better facilitate this, we are expanding our  
Washington efforts

- i) A new Washington office
- ii) More active involvement by UM people

Important to look for opportunities to pull together  
the delegation on matters of importance to Michigan

#### **Concluding Remarks**

You know, Michigan is really a very special place....

It is one of only a handful of universities capable  
of truly changing not only higher education,  
but the nation and the world.

A personal note here:

It was just about 20 years ago that Anne and I left  
the warmth and sunshine of Pasadena to come to  
Michigan.

We did so, in part, because Michigan had what was  
clearly the best department in the world in my  
particular field of interest, nuclear engineering.  
And throughout almost two decades on this campus,  
I have found myself surrounded by faculty and  
students who have arrived on this campus because  
they wanted to be associated with the very best...  
...the world leader...in education and research.

These linked themes of leadership and excellence  
are what have kept me here...and what make  
this University so very special.

We believe the challenge of re-inventing  
the American university for the 21st Century  
...is not only an exciting and  
challenging mission for the 1990s  
...but it is also a mission befitting  
UM's long heritage of leadership  
...and it is also a challenge worthy of  
the army of maize and blue alumni  
across the nation and around the world

Indeed, I'd be very surprised if you  
settled for anything less from your university!

The 1990s will be a time of great challenge  
opportunity, and responsibility for your university.

But they will also be years of great excitement.

As we stand on the threshold of this  
great adventure of re-inventing the  
University for the 21st Century,  
Let me call on you to demonstrate yet  
again that extraordinary sense of  
loyalty and pride in your University  
that has been our key source of  
strength...

Let me call on you to show that  
"Go-Blue" spirit that is the key  
to our heritage and our destiny.