

Listen and Learn Talk

Introduction

What a fabulous way to start off the New Year!!!

This year is particularly exciting:

- i) the 100th Tournament of Roses
- ii) the 75th Rose Bowl...in a sense, the Diamond Anniversary of that first game in 1902 when the Michigan football team beat Stanford 49 to 0.
- iii) Playing in USC one of the greatest football programs of modern times...
 - ...two of the great football programs in the nation...
 - ...with over 1,200 wins among them...
 - ...30 Rose Bowls...
 - ...180 All Americans...
- iv) And, of course, that dramatic, come-from-behind win over USC, 22 to 14!!!

What could have been more appropriate than that Michigan, the team that won the very first Rose Bowl, should return on its diamond anniversary to win once again.

As I noted earlier, Michigan played in the very first Rose Bowl in 1902, at the turn of the century...

At the time of that first game in 1902 there was little doubt that the University of Michigan was not only the flagship of higher education in America, but perhaps more than any other institution, Michigan during the latter half of the 19th century had practically invented the comprehensive research university that has served our nation so well.

Well, today even as we return home as winners of 75th Rose Bowl...
...as "Champions of the West"...

we are also preparing once again to enter a new century...

And I and my colleagues believe that it is time that Michigan once again assume its leadership role in inventing a university capable of serving America of the 21st Century.

Let me dwell on this point a bit.

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!

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...

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.

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.

- 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.

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.

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.

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.

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.

Yet, it now seems clear that our nation is changing rapidly into a highly pluralistic, knowledge-intensive, world nation that will demand similar dramatic changes in those institutions which serve it...

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, it may be time to once again reinvent the university in such a way as to allow us to serve a new America.

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...

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... 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.

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.

Concerns...

Needless to say, the same challenges of pluralism, of internationalization, and of this age of knowledge that is our future will also pose great challenges to our state. Indeed, I am absolutely convinced that our State faces a very unusual period of challenge in the decade ahead...a watershed, in a sense, from which we can either emerge at a national leader...or as an also run... or perhaps even worse...as an Appalachia... Maintaining Michigan's competitive edge requires attention to our traditional strength -- people and research -- and a strong offensive strategy based on these resources. Central theme is that education, broadly defined, will

play a pivotal role in the coming economic transition and its impact on individuals.

Previous economic transformations were closely associated with major public investment in infrastructure such as railroads, canals, electric networks, and highways. In the coming economic transition, an equivalent infrastructure will be an educated population.

Quite frankly, the choice will be ours...whether we choose to continue our tendency of recent years to spend our resources only to meet the needs or desires of the moment... or whether we can develop the vision, courage, and discipline to invest in the future of this state...not just for this year or next...but for the next generation...our children...

Clouds on the Horizon: Some warning signs...

WARNING SIGN 1: Michigan is slipping

Familiar Ills which dominate the headlines

The budget deficit

The trade deficit

Displaced workers

Marginal Industries

The meltdown of the stock market

The bad news for Michigan is obvious...

Industries of great economic importance to our nation such as steel and automobiles have fallen victim to intense competition from abroad...

Plants have closed...our cities are filled with chronically unemployed...which may well exceed 10% along the I-75 corridor...

In Michigan we no longer worry about nuclear war and the bomb because we believe that

"The odds are greater that America will be bought up by the Japanese than blown up by the Russians..."

No question that we have lost lead in many areas

Industrial productivity and heavy manufacturing

Steel, durable goods, ...

Moreover, key activities such as product design, engineering, and software development increasingly are likely to be done overseas.

Whether automobiles or refrigerators, computers or microchips, nuclear power or energy transmission systems, the likelihood is increasing that the systems are assembled from components designed, engineered,

***head 4 - manufactured, and shipped from all parts of the world.**

Michigan's per capita income has now dropped below

□he national average

head 4 + Michigan has dropped to 20th in per
capita income (and at \$15,393 is now □

head 5 - □ slxghtly behk

d the national average
of \$15,081)

falloff in HS graduates by 1992

Assuming that a fraction (4.8%) choose to enter skilled,
professions (a very conservative assumption), we
could end up with a cumulative shortfall of
over 100,000 positions by the year 2000.

Note: Composition of college age population is also changing...

By 2020 36% will

be composed of Blacks and hispanics..>
students who have not traditionaly chosen S&E cared□sÓ
Indeed, by the turn ox the century, over 50% œf K-12 studentsÕ.head 5 - wk

I be Blac

or Hispank.

The fastest growing pool of youths has the lowest participation rate in college and the highest dropout rate in high schools -- not the mention the least likelihood to study science and math.

NOTE: We must make special efforts to expand

participation by these groups...not just because that is good social policy, but because we cannot afford to waste their talents!

WARNING SIGN 3: Labor force of Michigan is becoming obsolete!

To do this, all the major inputs into our economy--quality

U - of workforce, amount of capital investment, level of technology, and skills of managers--must be as good as the equivalent inputs going into the economics of our major competitors.

Key input, however, is quality of the workforce.

Our principal competitors are simply producing workers better capable of absorbing modern production skills. The lack of these skills is preventing us from achieving the productivity gains that we should be getting.

The education of the Michigan workforce is inadequate to the demands of the next century.

Each year, 700,000 drop out of HS and 700,000 graduate without functional literacy;

1,000,000 immigrants must be added to this.

Hence each year we have 2.5 million persons entering our complex economy annually with

limited language and work skills

Yet our adult functional illiteracy rate is 18%--our high school graduate rate is down to 72%--and our high school graduates perform poorly relative to students in the rest of the world.

Michigan is undergoing dramatic change in industry...

Away from low-skill, blue-collar workers

The factory of the future will have NO low skill workers

Statistical quality control and just-in-time inventory systems require production workers with mathematical abilities that are far beyond the present level.

Unskilled labor will lose relevance in a world dominated by microelectronics, computers, and automation.

An example: Expert systems

The "expert system" craftsman...

About 45% of the job growth between 1980 and 1986 was in professional and managerial occupations, and almost 50% of the new jobs created between 1983 and 1986 went to people with at least 3 years of college.

Of the net increase of 25 M jobs to be created by 2000, 40% will be professional or technical positions; 58% will be marketing and sales.

administrative or

supervisory.

Serious concern:

1. The present generation of blue-collar workers does not have the formal education to be retrained!!!
2. Little sign that education system is adapting to this future.

Key input, however, is quality of the workforce.

Our principal competitors are simply producing

workers better capable of absorbing modern production skills. The lack of these skills is preventing us from achieving the productivity gains that we should be getting.

In the past few decades we have neglected education's

collective economic function. Whatever its individual payoff, it determines the human quality of the team on which every American plays.

It is bad enough to face the prospect of a significant fraction

of our labor force becoming permanently unemployable because of an inadequate education. Do we want to condemn their children...OUR children...to a similar fate? Can we afford it?

The economic challenge, in simplest terms, requires

upgrading the skills of 25 million American workers by 40% by the end of the century. A strong back and willing hands will no longer suffice.

You all know the headlines

Warning Sigh 4: The Dangers of Underinvestment

Perhaps the most ominous dark cloud on the horizon of all is the increasing evidence that our state has not yet awakened to the nature of the investments it must make.

While we all give the "age of knowledge" lip service, the evidence suggests that in reality, we long for a return to the agricultural and manufacturing economies that once made us reach...

We continue to invest as if these were the future...and we lose...

But the story becomes even more dismal when you look at our state's capacity...or perhaps I should say **willingness**...to invest in its future...

0. General Aspects

Indeed, a recent SRI study has indicated quite clearly that we are underinvesting in our "knowledge infrastructure" by at least 30% to 40%.

Interestingly enough, studies performed by both the Democratic administration and the Republican Senate agree with this prognosis...and yet nothing has happened...and we slip even further behind!

1. K-12 Education

Two-thirds of new jobs are in professional, managerial, and sales area...just 5% go to unskilled workers...as Michigan economy shifts from manufacturing to knowledge-based and service jobs.

"If Michigan is to prepare tomorrow's workers for tomorrow's jobs, major structural changes are needed in public education, both in classroom quality and in the adequacy and fairness with which the system is financed."

"What is required is a strengthened commitment in Lansing to school finance reform and improving the quality of basic and higher education, and a greater political willingness to stand up to special interests who would thwart those long-term goals to pursue short-term objectives. The opportunity to eliminate chronic unemployment in Michigan may be never more within our grasp than between now and the end of the century. The alternative is a growing mismatch of job opportunities and job training that threatens not only the state's recent prosperity, but its very solvency."
(Free Press editorial, 1/5/89)

Yet Lansing seems unable to address this issue...as the failure of the proposals to address K-12 funding and equity last December clearly indicated.

2. Lottery

Instead, we continue to rely on gimmicks...such as the

State Lottery, which in effect robs from those most in need of state assistance...

Furthermore, since these Lottery funds flow into the General Fund, and since state support of education has clearly not tracked the increase in lottery revenues, it is clear that lottery revenues are, in effect, going to build and operate more prisons (the only part of the state budget which has growth at this pace).

Some irony here, since the Lottery, in effect, is transferring funds from the deprived components of our population..

3. The Investment in Higher Education

Our state has dropped from 5th in the nation in its support of public education to 35th...the bottom third!!!

Indeed, we have dropped to 32nd in tax revenue for higher ed--7.8% compared to 11.4% for California!

We are being outspent by 30 - 40% in state support per student... Not simply by prosperous states like California...but by neighbors such as Indiana and Ohio!

Over the past 10 years, high tech states such as California, New Jersey, Massachusetts, and New York have seen real dollar increases in higher education appropriations of roughly 20 to 30%. In sharp contrast, over this period Michigan has declined by 4.5%...

Certainly these states are prosperous...but they are also investing substantially more of their resources in higher education...in preparation for a knowledge-based future...than are we. Indeed, one measure of the importance of higher education in the state budget is the ratio of tax dollars per enrollment ratio... a measure by which Michigan ranks 47th in the nation!

It seems clear that higher education faces a serious challenge in Michigan. Our present level of public support is clearly inadequate to maintain a system that is competitive on a national basis.

We are attempting to compete in this knowledge-intensive future with an underfunded public system of higher education... and no private capacity (such as a Stanford, MIT, or Caltech).

Only the autonomy granted to our public universities have allowed them to "overachieve" their public support through higher tuition and other sources of financial support.

This has given public higher education in Michigan some capacity to face the devastating impact of the past decade...but it is rapidly losing this capacity...and there seems little doubt that the quality of our system will probably be gone in the next 10 to 20 years if the present trends of inadequate state support coupled with tuition constraints continue.

4. Prisons

An fact, the only area where we now lead

the nation is in our prison system...

We are now investing more in prisons than in higher ed...that is, we spend more money putting people into jail than we do in keeping them out of jail!

Over the past 5 years, the Corrections budget has increased by 141%, compared to a 25% increase in spending for higher education.

Corrections will be \$633 in FY88-89 (compared to \$1,137 M for higher ed and \$2,144 M for social services) but projected to grow to \$2 B in 1990s.

Each of 25,000 inmates require \$22,000 per year...

Furthermore, we have spent over \$1.3 B to build new prisons...every penny of new construction goes... and now appear prepared to launch a second wave of prison construction, even though demographics suggest that many of these prisons will remain empty.

Further, while state revenues are projected to increase 5% in the year ahead, the exploding corrections budget (\$140 M additional just to operate the new prisons) will eat up this growth, thereby crippling other state priorities such as education and social services.

The Dangers...

Who is to blame???

Certainly not our elected public officials...

...since they believe they are responded to the wishes of the electorate...

Rather we should point the finger of blame at ourselves...

We see ourselves caring about the future, but we are not preparing for it.

We seem to have developed an

"Eat dessert first, life is uncertain" attitude that is rapidly mortgaging the future of our children.

Is our state willing to make the investments necessary today...

to build the prosperity we desire for tomorrow?

Education always falls at the bottom of the list of social needs.

Even though surveys indicate public supports education, this has yet to be translated into priorities.

Every other need or desire seems to come before the education of the youth...

Is this because of an aging electorate?

Is it the "Me Generation" of the 1960s now growing up into mature Yuppies?

No. Rather it is the fact that for many years now we simply have not been willing to invest in our future...and the future of our children...

We have chosen instead to mortgage this future to pay for mistakes made in our past.

Six-month planning horizon...desire for immediate results...inability to identify the investments which have to be made today to yield the objectives for tomorrow.

The old T-shirt expression: "Eat dessert first, life is uncertain" reflects our present tax policy.

The attitude we have taken toward our most precious resource, our youth, is both callous and alarming.

I simply cannot accept the excuse that "we can no longer afford this investment in the educational opportunities we offer our youth".

To be sure, the immense social needs for welfare assistance, medical care, prisons, and all of the other programs that drain our tax dollars are compelling.

However, by choosing to meet these needs with resources taken away from our system of public education rather than through reforms in our tax structure or political system, we have in reality mortgaged our future by withdrawing the educational opportunities from our youth.

Michigan has had a long tradition of wealth and a caring attitude for its populace. But it seems clear that if priorities are not changed, Michigan will become poorer and poorer and

finally it will not be able to meet the "caring needs" of its people. It will then have become a "have not" state.

We seem to have forgotten the commitments and sacrifices that past generations of citizens have made to build educational institutions of exceptional quality -- institutions that have provided many of us for years with unsurpassed educational opportunities.

All human societies embody to endow their children with an enlarged and enriched culture, for transmission to their successors.

If it is not to be our young people and their work that will gain us a secure place among nations and our better life for our citizens, then what will it be instead? And if we fail to invest adequately in the successor generation, then what kind of caretakers of our heritage and theirs will they turn out to be?

We are a nation that has always believed deeply in generational improvement--in the prospect that things will be better for our children.

Americans must put aside their suspicions and answer that call, because the result of failure will be that 40 years from now a generation will stand where we are today and know that things are, for the very first time in history, worse than they were for their fathers and mothers.

We (simply) must re-establish the importance of both our personal and public investments in education, in the future of our children, in our own future, at the local level if Michigan -- indeed, if our nation -- is to face the challenge of the age of knowledge.

A different way to look at it:

The Investment in Human Capital...

The real issue here is not the investment in education... it is the priority that we as a nation place on investing in our children.

We should feel both embarrassed and ashamed for robbing our youth to pay for our own excesses...

But let's take the cynical view that responsibility and stewardship will simply not be a compelling enough argument to reprioritize the

importance of investing in human capital...in our youth.

There is another viewpoint, however...

If we do not invest in the youth of today, they will not become a

sufficiently productive workforce to keep the checks coming to those of us who retire in future years!!!

By 2000, there will be only three workers to support each

retiree...and one of these will be minority!

Look at it another way...which is the better investment...

\$3000/y to keep a preschool kid on track

\$5000/y to achieve a strong K-12 education

\$10,000/y to sustain strong college education

or \$25,000/y to put someone in jail...

The Need for a New Coalition

Somehow we must reprioritize the agenda of this state...

To shift away from our present myopic policies of addressing only the needs and desires of the moment
And, instead, to begin to make some of the key investments necessary for the long term...

The key investments in people in general...and in our children in particular...

This is not just the worry of local communities or state government or public institutions

It is everybody's concern!

Leaders in the private and public sector are going to
have to step forward and unit behind this initiative.

We must learn to build new coalitions involving
the public and private sectors...state government,
education, business, industry, and labor...to
develop an agenda appropriate to secure the
future of our children, our state, and our country.

Michigan still has the opportunity to regain economic
leadership.

We still are blessed with abundant natural resources,
a people of great strength, and a system of higher
education of a quality envied by the rest of the
nation...albeit sustained by "overachievement"
in the face of inadequate state support.

But, the writing is on the wall...

The future of our state is being lost rapidly
through serious underinvestment in our
most valuable resource, our youth...