

Public Education

+Introduction

+As many of you know, I am a scientist by
+both training and background. As such, I
+suffer from two character flaws: first, I
+tend to be a bit too candid in my remarks.
+Second, I tend to be one of those people who
+lives more in the future than in the present
+or the past. My life as a scientist and an
+engineer has been spent working on such
+futuristic areas as nuclear rocket
+propulsion, laser-driven thermonuclear
+fusion, supercomputers, and robotics. Now,
+as we enter the 1990s, I find myself looking
+once again to the future, facing the
+challenge of helping to build a university
+capable of serving our state and our nation
+in the 21st century.

+But today, I am going to put aside my
+hat as a university president and take a
+somewhat broader perspective. As a
+member, both of the National Science
+Board and the National Academy of
+Engineering, I have been heavily involved
+in recent years in a number of efforts to
+assess the challenges facing this nation as
+we approach the 21st century. The
+dominant theme of these activities, of
+meeting after meeting, of study after study,
+is the growing crisis our nation faces in the
+development of its human resources and in
+the education of a work force that will be
+competitive in the global economy of the
+century ahead.

+Let me illustrate these discussions with
+several examples from very recent personal
+experiences. Last December I attended an
+international conference involving the top
+scientists, government officials, university
+leaders, and business leaders from a number
+of nations throughout the world. At this
+meeting, a senior executive of Nissan
+pointed out that, following an extended
+visit by a number of senior Japanese business
+leaders to this country, the group was asked
+what they viewed as the greatest strength
+and the greatest weakness of the United
+States. The Japanese were unanimous in
+their conclusions: America's greatest
+strength was its research universities,
+clearly the finest in the world. America's
+greatest weakness, however, was public
+education at the primary and secondary
+level.

+Quite a paradox isn't it? Quite a
+challenge!

+Two weeks ago, I attended the annual
+meeting of the Business-Higher Education
+Forum in Tucson. This is an organization
+comprised of forty of the nation's leading
+chief executive officers and forty university

+presidents. During this meeting, these
+business leaders stated their belief time
+and time again that the quality of public
+education in American today was the most
+serious crisis our nation has faced since
+World War II. And yet, they also
+expressed their frustration that this was a
+crisis about which there was very little
+public awareness and even less public
+consensus.

+In my frequent interactions with the
+leaders of the public and private sectors
+throughout this country I detect an
+increasing sense of both urgency and
+pessimism about America's will and
+capacity to take the actions necessary for
+our future. Indeed, many of these leaders
+now believe that our nation is well down
+the road toward "outsourcing" its
+knowledge resources, just as we have been
+our labor, our manufacturing, and our
+products. American industry is losing
+confidence in our domestic supply of
+knowledge resources--that is, a well-
+educated labor force or an adequate supply
+of scientists, engineers, and other
+professionals.

+There are several principal trends
+which lead to this growing pessimism:
+First, there is increasing concern that the
+staggering problems facing K-12 education
+can simply not be overcome on a time scale
+necessary to preserve our economic strength.
+The bureaucracy and political resistance
+may just be too great.

+Second, despite the fact that most
+other nations regard higher education as
+America's greatest strength, there is little
+sign that this view is shared either by our
+elected political leaders or the public at
+large. Indeed, in recent years it has become
+fashionable to attack our universities, even
+as we continue to underfund them in many
+cases.

+The third trend involves the rapid
+growth of "transnational" companies, that
+is, companies which have no particular
+allegiance to a region or nation, but rather
+seek resources, whether they be labor,
+processes, or knowledge, wherever they can
+get them at the highest quality and lowest
+cost. The changing structure of the global
+economy suggests that outsourcing of
+knowledge from other parts of the world
+will become increasingly common as the
+quality of American education deteriorates.
+There are already many signs of this. For
+example, Motorola has recently announced
+it is establishing a permanent recruiting
+office for scientists and engineers in India.
+Furthermore, we already know that over 60

- +percent of all doctorates produced in this
- +nation in engineering and physical science
- +are awarded to foreign nationals.
- +The prospect that we will give up on
 - +our efforts to produce an educated workforce
 - +capable of creating and supplying new
 - +knowledge is frightening. Industry has
 - +already outsourced labor and
 - +manufacturing. Can we afford to lose our
 - +competitive capacity to produce knowledge
 - +as well?
- +We must face the facts. We are not
 - +going to be rich and prosperous if all we do
 - +is mow one another's lawns. Or, more to the
 - +point, if all we do is engage in financial
 - +gymnastics such as leveraged buy-outs
 - +financed by junk bonds, we will destroy our
 - +capacity to make the long-term investments
 - +and commitments necessary for
 - +competitiveness. We simply 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.
- +Let me be frank with you. I am very
 - +worried--worried about the future of our
 - +nation, worried about the future of our
 - +state, worried about the future that my
 - +children will inherit, and worried about
 - +both your future and mine--since it is clear
 - +that everyone of us is at great risk because
 - +of our serious underinvestment in the
 - +quality of our human resources.
- +Today I would like to share with you
 - +my concerns. In a sense I will only be
 - +reading some of the writing on the wall.
 - +But, beyond that, I am going to be so bold as
 - +to make several suggestions about what
 - +might be done about the state of public
 - +education in America. In particular, I wish
 - +to issue a "call to arms" to you as parents
 - +and as citizens to take action before it is too
 - +late.
- +K-12 Education--The Score Card
 - +A Nation at Risk
 - +Today an unprecedented explosion of
 - +knowledge heralds the onset of a new era.
 - +Since people are the source of new
 - +knowledge, our nation is relying
 - +increasingly on a well-educated and
 - +trained workforce to maintain our
 - +competitive position in the world and our
 - +standard of living at home, as well as to
 - +harness the power of this new knowledge
 - +for the good of our planet and for all of
 - +mankind. Yet, here we are in real
 - +difficulty because we are simply not
 - +educating enough new people to keep our
 - +economy competitive. Further, there are
 - +serious signs that the education of the
 - +present American workforce is seriously

- +inadequate to meet the demands of the next
- +century. This has become known as "the
- +pipeline problem" since it involves the full
- +spectrum of education, from preschool
- +through K-12, through higher education, to
- +lifelong education.
- +Today I will focus my remarks on K-12
- +education because, like the Japanese, I
- +believe that this part of the pipeline is
- +clearly our weakest link, our Achilles'
- +heel. By any measure, K-12 education is in
- +serious trouble. We are indeed a "nation at
- +risk," or to quote a U.S. Senator's
- +observation in a meeting I attended last
- +Wednesday in Washington, "Public
- +education in America is an absolute
- +disaster!"
- +Graduation Rates and Literacy
- +The United States today spends more on
- +education than any nation on earth, \$328
- +billion, more than for any public service,
- +including national defense. Yet, functional
- +illiteracy in this nation currently runs
- +between 20 percent to 30 percent, compared
- +to a high of 5 percent in most other
- +industrialized nations. Fully 25 percent of
- +Americans now fail to complete high
- +school. Each year 700,000 students drop out
- +of high school and 700,000 more graduate
- +without functional literacy.
- +An Example: John Porter, Superintendent of Detroit PS
- +...15,000 in 9th grade
- +...6,600 will graduate (44%)
- +...1,000 are "job ready" (7%)
- +...500 are UM ready (3%)
- +Achievement Measures
- +Our first tendency is to think that K-12
- +education is merely failing with minorities
- +and at-risk students. However, other
- +comparisons demonstrate that this is not
- +the case and that the weakness of our
- +educational system extends throughout all
- +of our society. Even if we exclude those who
- +drop out, we are presently only educating 15
- +percent to 20 percent of our students to an
- +intellectual level capable of functioning
- +well in the everyday world. In recent
- +assessment tests it was found that only 20
- +percent of high school seniors could write
- +an adequate letter. Only 12 percent of high
- +school seniors could take a group of six
- +fractions and put them in order of size. And
- +only 5 percent of high school graduates
- +today enter college ready to begin college
- +level mathematics and science courses or to
- +approach the reading of technical
- +material.
- +Indeed, last week we had even more
- +evidence that there has been little progress
- +in Michigan with the announcement of
- +recent assessment tests in which it was

+noted that: i) over 70 percent of students
+failed the reading section; ii) over 60
+percent failed the science section; and, iii)
+over 30 percent failed the mathematics
+section.

+International Comparisons

+At every level of education, American
+children rank near the bottom in their
+knowledge of science and mathematics
+when compared to peers in other advanced
+nations. For example, compared to students
+in fifteen other nations, U.S. high school
+seniors scored among the bottom quarter on
+calculus and algebra achievement tests.
+Our seniors ranked fourteenth among
+fourteen nations in science achievement.
+This dismal performance is present at every
+level of American primary and secondary
+education, in essentially every discipline.

+We are a sports-oriented society, and
+we like to frame issues in the language of
+sports such as "being number one." But
+public education is not a game. Rather, it is
+a deadly serious matter of raising a
+generation of Americans who will be able to
+hold their own in an increasingly
+competitive, increasingly complex, and
+increasingly science and technology-
+oriented world.

+The coin of the realm in the age of
+knowledge that is our future will be
+knowledge of science, mathematics, and
+technology. Yet it is clear that most
+American students today are simply not
+developing the knowledge base or the
+skills necessary to compete in this world.

+The students in our classrooms today--
+students testing at the bottom of the heap
+in world terms--will be the backbone of our
+labor force in the century ahead. Indeed,
+they will be running this country with
+several decades!

+I think you can see why I am worried--
+and why you should be worried. We are
+indeed a nation at risk, and we will become
+even more so as we grapple with the
+extraordinary changes underway in our
+society, our nation, and the world.

+The Themes of Pluralism,

+Globalization, and Knowledge

+As I look to the future, I sense an ever-
+accelerating pace of change in our society,
+in our state, in our nation, and in our world
+as we approach the 21st century. And
+while it is always risky to speculate about
+the future, three themes of 21st century
+America seem clear:

+Pluralism

+It will be a future in which our nation
+becomes a truly multicultural society, with
+a cultural, racial, and ethnic diversity that

+will be extraordinary in our history. It will
+be a society in which we cease to have any
+true majority population. We will become a
+nation of minorities. We will be a nation in
+which women must take their rightful
+place as leaders of America. Indeed,
+almost 90 percent of the new entrants into
+our workforce during the 1990s will be
+people of color, non-minority women, or
+immigrants.

+Globalization

+It will be a future in which America
+will become "internationalized." It is clear
+that our economy and commerce are
+becoming ever more interdependent with
+other nations as the United States becomes
+a member of a global community, as this
+year's past events in China, Russia, and
+eastern Europe make all too apparent.
+Every one of our activities today must be
+viewed within the broader context of
+participation in this global community.

+Further, as the destination of roughly
+one-half the world's immigrants, the
+United States is rapidly becoming a "world
+nation" with not simply economic and
+political, but strong ethnic ties to all parts
+of the globe as well. The 21st century will
+be the first post-European century in
+American history in the sense that an
+absolute majority of young people born in
+this century will be born of parents of other
+than European background--Asian, African,
+and Hispanic. This will represent a major
+change in the character of our society.

+The Age of Knowledge

+But here there are even more profound
+changes underway. 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. The signs are all
+about us. Industrial production is steadily
+switching away from material and labor-
+intensive products and processes to
+knowledge-intensive products. Our nation's
+future has probably never been less
+constrained by the cost of natural resources.
+Increasing manufacturing productivity has
+come to mean decreasing low-skill
+employment.

+We are in the midst of an information
+revolution that is changing the basis of
+economic competitiveness and world power.
+Indeed, if you want to know the real reason
+for the recent events in eastern Europe,
+China and the Soviet Union--the collapse
+of communism--it was the silicon chip,
+which created a truly international
+exchange of ideas and perspectives that
+could not be constrained by any government.

- +In a sense, we are entering a new age,
 - + "an age of knowledge," in which the key
 - + strategic resource necessary for our
 - + prosperity, security, and social well-being
 - + has become knowledge itself, that is,
 - + educated people and their ideas.
- +The Challenge of Change
 - + Needless to say, these challenges of
 - + pluralism, globalization, and this age of
 - + knowledge that is our future will pose great
 - + challenges and demand great changes in
 - + both our state and our nation. The America
 - + of the 20th Century that we have known
 - + throughout our lifetime was a nation
 - + characterized by a rather homogeneous,
 - + domestic, industrialized society. But that
 - + is an America of the past. Our students will
 - + inherit a far different nation, a highly
 - + pluralistic, knowledge-intensive, world
 - + nation that will be America of the 21st
 - + Century.
- +Of course, these are not really themes
 - + of the future but rather themes of today. In
 - + a sense I have simply been reading the
 - + handwriting on the wall. The impact of
 - + these changes are already painfully
 - + apparent to Michigan's workers and
 - + industry. In fact, it is here in Michigan, in
 - + the heart of the "rustbelt," that the impact
 - + of these extraordinary changes are most
 - + clearly seen.
- +We all know that the past decade has
 - + been a period of great difficulty for our
 - + state. Industries of great economic
 - + importance, such as steel and automobiles,
 - + have fallen victim to intense competition
 - + from abroad. Plants have closed, and we
 - + still have many people chronically
 - + unemployed or underemployed. Michigan's
 - + per capita income has now dropped below
 - + the national average. Our unemployment
 - + rate consistently remains 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:
 - + 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
- +to provide us with strength and prosperity
- +tomorrow, and instead become an economic
- +backwater in the century ahead. It is clear
- +that we face a watershed, a fork in the
- +road ahead.
- +My central point is that education,
- +broadly defined, will be the pivotal issue
- +in determining which of these alternative
- +futures will be Michigan's and America's.
- +Previous economic transformations were
- +closely associated with major public
- +investment and infrastructure, such as
- +railroads, electrical networks and
- +highways. I believe that the coming
- +economic transition and equivalent
- +infrastructure will be an educated
- +population.
- +It seems clear that the dominant issue
- +of the 1990s will be the development of our
- +people and the education of our youth.
- +People must be our major focus. It is people,
- +not equipment or buildings or organizations,
- +who are the sources of creativity. They
- +generate the knowledge that makes
- +innovation possible. They provide the
- +workforce that leads to our wealth and
- +makes our society run. They are our
- +researchers and teachers, our leaders and
- +managers and decision makers in a modern
- +technological society.
- +But here we face very serious
- +challenges...
- +So What is Wrong with Public
- +Education in America Today?
- +The Last of the Smokestack Industries
- +As Albert Shanker, president of the
- +American Federation of Teachers, has
- +observed, a fundamental flaw in our system
- +of public education is our assumption that
- +our teachers are the workers who have the
- +task of delivering knowledge to our
- +children. Such a system would make a lot
- +of sense if we view the student as a passive
- +object, passing down an assembly line, being
- +worked on by others, the teachers. First
- +the English teacher hammers English into
- +a student, then the student spends forty
- +minutes in another classroom where the
- +mathematics teacher screws in
- +mathematics, and so on throughout the
- +day.
- +Perhaps this lock-step approach to
- +learning was fine for training our industrial
- +workforce, organized hierarchically into a
- +structure in which only those in top
- +management needed to analyze, think
- +critically, and make decisions. But today's
- +world is a very different place requiring

- +different skills, more initiative, and
- +creativity.
- +What we need to do is stop thinking
 - +about how to fit teachers, students, and
 - +parents into an old fashioned factory. Even
 - +modern business is abandoning the factory
 - +model. Instead, we need a structure in
 - +which the students become the workers. In
 - +this sense then the teacher is not the person
 - +who pours knowledge into the student; the
 - +teacher is rather a manager with the same
 - +concerns that a manager of any company
 - +would have: How do I get my workers
 - +(students) to come here wanting to work
 - +(learn)? How do I get them to do the work
 - +(learn)? How do I get them to manage and
 - +be interested in the quality of their own
 - +work (learning)?
- +The "Blue-Collarization"
 - +of the Teaching Profession
 - +It seems clear that teachers are--or at
 - +least should be, regarded as--among the
 - +most valuable members of our society, since
 - +in a very real sense they are creating our
 - +future. And yet how do we treat them? We
 - +give them low salaries, low status, and few
 - +rewards. We give them little opportunity
 - +for control of the curriculum and drown
 - +them in a mire of bureaucracy. We assign
 - +them the challenge of dealing with
 - +children from disintegrating families,
 - +impoverished backgrounds, dulled by the
 - +impact of television. And then we criticize
 - +them for not doing their job!
- +Just think of the image of the teaching
 - +profession that this creates in the minds of
 - +a talented undergraduate. Why would any
 - +college student--particularly those
 - +struggling through difficult majors such in
 - +the sciences or mathematics--want to enter
 - +what has, in essence, become a "blue collar
 - +career"? Why would a strong student want
 - +to join a union, earn low wages, struggle
 - +with excessive administrative
 - +bureaucracies and meddling school boards--
 - +when the alternatives are investment
 - +banking, engineering, medicine, or law (at
 - +least, "LA Law" style...)? And could you
 - +blame them?
- +The sad fact of life is that the teaching
 - +profession, at least as it is presently
 - +configured, is simply not capable of
 - +attracting our best students. And America--
 - +and our children--are much the worse for it!
- +The Conflicting Missions
 - +of Our Public Schools
 - +Once we believed that our schools were
 - +primarily for learning. However, over the
 - +past several decades, we have assigned to
 - +our public schools a broader array of social
 - +roles for which they were unprepared,

+thereby undermining their primary purpose
+of education. We have shifted our schools
+attention from the intellectual
+achievement of their students and more to
+concerns about social adjustment, individual
+realization, and group consciousness.
+Indeed, we have lost any coherent vision of
+the precise role that our schools should
+play in our society. And, of course, part of
+this trend toward a broadened role for our
+public schools has arisen from our
+abdication of our responsibilities as
+parents.

+Family Attitudes

+A recent survey conducted both in
+America and in Japan of mothers whose
+children were not performing up to
+expectations found some very revealing
+differences: American mothers
+immediately assumed their children were
+not smart enough; Japanese mothers
+thought that their children were not
+working hard enough. A rather revealing
+example of the difference in family
+attitudes, is it not?

+Perhaps it is the lack of commitment of
+the American family to the education of
+children that most distinguishes us from
+other countries. We seem too busy to help
+our own children in their studies or to
+participate in their activities.

+Of course, there are many situations in
+which we cannot blame the family.
+Because for many children, the family
+simply doesn't exist!

+The Disintegration of Our Social Fabric

+Roughly one-half of the students
+enrolled in K-12 education come from what
+we used to call "broken homes." Except
+that in today's society this situation has
+become the norm rather than the exception.
+To this we must add the full range of other
+social ills, ranging from the mind-numbing
+impact of television, to poverty and the
+disintegration of the family, to drugs and
+crime. Of the class of 2002 that started
+kindergarden this past year, 25 percent are
+living below the poverty level, 15 percent
+have physical or mental handicaps, 15
+percent have been born to teenage mothers,
+and 10 percent have illiterate parents.

+Public Attitudes

+The real power to influence education
+lies at the local level. Yet here our schools
+face a very serious challenge, since few of us
+are willing to step forward and become in
+volved with public education.

+Sure we all complain about our schools
+a great deal. But how many of us are
+willing to run for schools boards with the
+objective of achieving real change? How

- +many of us are willing to support the tax
- +millages necessary to build strong schools or
- +the other tax measures necessary to achieve
- +equity in school financing? How many of us
- +as citizens have stepped up to our political
- +responsibilities and demanded that our
- +publicly-elected officials respond to the
- +seriousness of our deteriorating system of
- +education?
- +In fact, when it comes right down to it,
- +how many of us are really willing to insist
- +on quality in our schools in the face of the
- +political pressures and costs which such a
- +quality commitment will trigger? How
- +many of us realize that what is at stake
- +here is not just the future of our children, but
- +the future of our nation and our way of life,
- +not to mention our own personal well-being?
- +The Failure of Our Universities
- +While I am taking pot shots at various
- +groups, let me also aim a few as well at
- +higher education. Many of the problems
- +faced by public education these days are our
- +doing. For years in most of our institutions
- +the education of K-12 teachers was ranked
- +among the lowest of our priorities. Indeed,
- +in some institutions--including the
- +University of Michigan--during the period
- +of serious financial pressure in the early
- +1980s, we have proposed that our schools of
- +education should be eliminated!
- +Further, we have perpetuated the
- +smokestack assembly-line approach to
- +education, both in our instructional
- +programs and in our accreditation
- +activities. We have not insisted on the
- +highest standards and best preparation of
- +those we admit to our teacher education
- +programs. And we certainly have not
- +adhered to the highest standards for our
- +own graduates.
- +Political Minefields
- +Ross Perot was quoted as saying, "The
- +hardest thing I ever did was the year I
- +spent trying to improve the Texas public
- +schools. It was the hardest, meanest,
- +bloodiest thing I ever tried to do." It is not
- +surprising then that we continue to be
- +paralyzed in our efforts to come to grips
- +with school finance reform or the major
- +structural changes necessary to achieve
- +quality in public education.
- +One of the great curses of the American
- +experience has been our preference for
- + "quick fixes," simple solutions to complex
- +problems. Too often we go for the slickly
- +marketed patent medicine that not only
- +doesn't provide a cure, but actually
- +aggravates the problem. The classic
- +example of this tendency toward
- +gimmickry is the state lottery, which, in

+effect, robs from those most in need of state
+assistance to subsidize those already well
+supported. Despite the fact that lottery
+revenues have flowed at ever-increasing
+rates into the state treasury, state support
+of K-12 education has languished for many
+years, in sharp contrast to other state
+priorities, such as prison construction.
+Hence, it seems clear that rather than
+support education, lottery revenues have
+gone to support other state priorities, such
+as corrections. Since those participating in
+the lottery tend to be from the more
+impoverished parts of our population, it is
+clear that the lottery is having the
+perverse impact of transferring funds from
+those who are deprived to subsidize those
+who are prosperous.

+Possible Solutions

+Some General Observations

- +The reform movement launched by the
+"A Nation at Risk" report with only
+modest improvement in the quality of our
+public schools. Teacher salaries have
+increased; academic standards have been
+raised; leaders in both the public and the
+private sector have become strong
+advocates for education. Yet we still have
+not made much progress.
- +Part of the problem is that we
+essentially have taken the system we have
+in place for granted, assuming that it is
+correct and that all we need do is fix it up a
+bit. We are only now beginning to recognize
+that we need more than gradual reform.
+We need a complete overhaul of our public
+schools.
- +But doing this will be a great
+challenge. Major reform will be strongly
+resisted from many quarters: by teachers
+and unions, by administrations and school
+boards, by politicians, and even by parents.
+All will feel threatened by the significant
+changes necessary to restore the quality of
+American public education. And well they
+should, since we do not even have
+agreement on the most general nature of the
+changes which must occur.
- +In a survey conducted by the Business
+Higher-Education Forum, a list of 285
+recommendations was compiled from
+twenty major reports on public education
+which have appeared in the past several
+years. Yet of this number, only nine
+recommendations were supported by five or
+more of the reports. The Forum noted that
+"It is little wonder that progress in raising
+student achievement has been so slow. As
+different pilots seize the helm of
+educational reform, the ship goes around in
+circles."

- +The Forum identified several basic
 - +principles which must characterize any
 - +approach to rebuilding our public schools:
 - +Simplicity: the simpler the goal, the
 - +more likely it is to succeed. For example,
 - +one might choose a goal by demanding that
 - +at the end of the next school year all
 - +students should be performing at grade
 - +level before promoting them to the next
 - +grade. Students not performing at these
 - +minimum standards would be provided
 - +with appropriate assistance until they do
 - +and not promoted until that time.
 - +Systems: Goals must address public
 - +education as a system, avoiding piecemeal
 - +tinkering and dabbling with one aspect of
 - +reform, and considering instead the entire
 - +education pipeline. For example, it makes
 - +little sense to focus only on primary
 - +education without taking into account pre-
 - +school, secondary, and higher education.
 - +Values: The debate over the future of
 - +our public education system must be recast
 - +within a broader framework that stresses
 - +not only the education of our youth, but also
 - +the clear need for all of our people to learn
 - +their way through full and satisfying
 - +lives. In working toward this fundamental
 - +goal, arching values should be stressed
 - +which reaffirm the dignity of work, restore
 - +a sense of national purpose, and recapture
 - +our belief in the future.
- +What We Know
 - +The truth is that we already know a
 - +great deal about what needs to be done to
 - +improve public education. We know our
 - +children need respect and freedom if they
 - +are to learn. We know that we need to see
 - +each child as an individual in the context
 - +of their needs in and outside the classroom.
 - +We know that children cannot learn if they
 - +are hungry, or sick, or homeless, or abused.
 - +For too long we have
 - +compartmentalized our approach to
 - +children and families, treating first one
 - +symptom and then another. We have to
 - +recognize the needs of the whole child--
 - +indeed the impact of the entire social
 - +fabric--on the nature of education.
 - +Thanks to the experience of the great
 - +private schools such as Cranbrook, we know
 - +many of the distinguishing characteristics
 - +of successful schools:
 - +i) freedom from external control and
 - +regulation that leaves more power in
 - +the hands of the individual school to
 - +define its own educational program;
 - +ii) strong leadership in trying to unite the
 - +faculty and students by articulating the
 - +clear academic mission for the
 - +institution;

- +iii) extensive teacher preparation in trying
 - +to decide how to teach, what materials
 - +to use, and what curriculum to follow;
- +iv) respect for the individuality of the
 - +student; and, most significantly of all,
- +v) extensive parental involvement in the
 - +life and the progress of the school.
- +There is yet another important
 - +experience we can draw on for guidance, and
 - +it is higher education itself. Recall the
 - +view of the Japanese businessmen who
 - +regarded our universities as this nation's
 - +greatest asset. What a contrast to primary
 - +and secondary education!
- +For example, while public support of
 - +higher education in our own state of
 - +Michigan ranks near the bottom (ranking
 - +45th over the past decade), the quality of
 - +our universities ranks among the very top
 - +nationally--and globally as well. In sharp
 - +contrast, public support of K-12 education in
 - +Michigan ranks high among the states, and
 - +far above the levels in most other nations.
 - +Yet, in terms of student achievement, our
 - +public schools rank near the bottom.
- +What is going on here? Why the sharp
 - +contrast between the quality of public
 - +higher education and K-12 education?
 - +Perhaps if we can identify the key factors
 - +leading to our success in higher education,
 - +then we can draw on these for possible
 - +changes in primary and secondary
 - +education.
- +First, it is clear that universities face
 - +an intensely competitive marketplace
 - +competing for the best students, faculty,
 - +funding, not only with other institutions in
 - +the state but indeed throughout the nation
 - +and the world. This competition provides a
 - +certain vitality and energy to our system of
 - +higher education.
- +Second, most universities, whether
 - +private or public, benefit from considerable
 - +autonomy and independence with respect to
 - +programs, financing, and admissions. This
 - +independence gives them the capacity to
 - +control their own destinies, to develop and
 - +implement their own strategies for the
 - +future.
- +Primary and secondary public schools
 - +stand in sharp contrast. Students are
 - +assigned according to geographical
 - +residence. While there has been some
 - +recent discussion of the "schools of choice"
 - +concept, this is still largely missing from
 - +public education. Collective bargaining
 - +contracts give schools little control over
 - +teacher quality. And curriculum, resource
 - +deployment, and program contract are
 - +generally dictated by administrators far
 - +removed from the day-to-day

- +responsibilities for teaching.
- +It could well be that our K-12 schools
 - +are so overwhelmed by red tape and
 - +bureaucracy and operate in such a weak
 - +marketplace (with no real incentives for
 - +quality), that they just cannot improve.
- +What Can We Do?
 - +1. Education for All of America
 - +We must commit ourselves, and our
 - +nation, to providing a quality education for
 - +all of our citizens. We should accept the
 - +premise that every child, regardless of
 - +racial, ethnic, or economic background has a
 - +right to a quality education, with the
 - +objective being at least twelve years of
 - +formal education.
 - +2. Education for the 21st
 - +...not the 19th century!
 - +Our public schools will only succeed if
 - +they replace the basic structure that was
 - +put in place fifty years ago to meet the
 - +needs of a smokestack economy with a new
 - +structure that meets the needs of an
 - +information society, an age of knowledge.
 - +We need creativity as well as openness to
 - +entirely new approaches to learning in the
 - +organization, management, and staffing of
 - +our schools.
 - +Of course, the first objective is to fill
 - +our schools with first-rate teachers and
 - +administrators and then set up
 - +performance-oriented systems in which the
 - +goals for students are clearly specified, and
 - +the rewards go to schools in which students
 - +make substantial progress toward those
 - +goals.
 - +3. We must make teaching an
 - +honored profession once again.
 - +Of course, a key objective must be to fill
 - +our schools with first-rate, dedicated
 - +teachers and administrators. This goal
 - +will require major changes in the way in
 - +which we honor and support the teaching
 - +profession.
 - +We must recognize the great importance
 - +and value of our teachers, reflecting this
 - +with better pay, including strong merit
 - +components. We must also provide our
 - +teachers with far better preparation by
 - +requiring all teachers to have education in
 - +basic core disciplines such as the liberal
 - +arts, sciences, and mathematics and then
 - +providing the necessary pedagogy at the
 - +graduate level. We must provide our
 - +teachers with more control over curriculum
 - +in the classroom. We must take teachers
 - +out of their current blue collar, assembly
 - +line, factory jobs and give them the status,
 - +the rewards, and the responsibility and
 - +authority characterizing other professions
 - +such as law, medicine, and engineering.

- +We must provide strong incentives for
 - +our very best students to consider careers in
 - +teaching. This will require a major
 - +rethinking of the nature of teacher
 - +education. It seems clear that our best
 - +students will seek education in the liberal
 - +arts (humanities, natural sciences, social
 - +sciences, arts) and not in education majors.
 - +Hence, we need to develop concentrated
 - +programs at the graduate level designed to
 - +provide the proper foundation in pedagogy
 - +and child development. Further, we must
 - +provide strong financial aid incentives for
 - +students in these programs.

+4. School Management

- +Education can learn many lessons from
 - +business about how to improve the quality
 - +of their operation. In a nutshell, we must
 - +set up performance-oriented school--schools
 - +in which the goals for students, faculty,
 - +and administrators are clearly specified,
 - +and the rewards go to those schools in
 - +which these goals are achieved.

- +Like business, education must make a
 - +firm commitment to quality and build it in
 - +in the first place wherever possible. It is
 - +clear that we need far higher standards
 - +and expectations for our schools. This may
 - +require significant structural changes, such
 - +as lengthening the school year from 180
 - +days to 240 days (noting that this action
 - +would also enable significant increases in
 - +teachers' salaries and ease child-care
 - +needs in our society).

- +Our schools must reward success in
 - +producing quality. When a system for
 - +rewarding quality is in place, they should
 - +then allow the people on the firing line,
 - +the teachers, to determine how to get the
 - +job done. And they simply must eliminate
 - +as much of the bureaucracy and as many of
 - +the intervening rules and regulations as
 - +possible.

- +The key is to get the incentives to make
 - +sure there are appropriate rewards for
 - +success and real consequences for failure. If
 - +we want quality, we should reward it. If
 - +we want student progress, we should reward
 - +it. If we want efficiency in the use of public
 - +resources, we should reward this too.

+5. School Financing

- +It is clear that even though public
 - +education in America is relatively well
 - +supported, additional support will be
 - +needed to affect the major overhaul that
 - +will be necessary. We will need more tax
 - +support for public education--at least
 - +through the reform decade of the 1990s.
 - +Since education is the real key to our future,
 - +it seems appropriate that we place a
 - +higher value on it.

- +In particular, in Michigan, we simply
 - +must re-shape our state's priorities to bring
 - +a better balance to school finance by seeing
 - +education as an investment in the future
 - +that deserves a higher priority in
 - +relationship to our immediate needs. We
 - +simply have to turn the state priorities
 - +around and make education far more the
 - +centerpiece of our efforts. We have to stop
 - +treating the symptoms and summon the will
 - +and courage to seek a cure.
- +It is clear that we must devise
 - +alternative tax methods, shifting from an
 - +overdependence on property taxes. Indeed,
 - +unless our state can find a way to shift from
 - +an overdependence on property taxes, we
 - +will continue to find strong tax resistance
 - +impeding progress in school reform. So too,
 - +we must come to grips with serious equity
 - +issues, leading to extremes between rich and
 - +poor school districts. This inequity
 - +continues to result in the least investment
 - +going to the state's schools whose students
 - +are most in need of quality education.
- +6. What Higher Education Can Do?
 - +Higher education must awaken to its
 - +responsibilities for the quality of public
 - +education in America. It is clear that we
 - +need to reach out more to school districts--
 - +working with them and responding to their
 - +needs. We need to work with our public
 - +schools to experiment with new techniques,
 - +new texts, new methods of instruction, new
 - +ways of organizing knowledge, and
 - +engaging students in the excitement of
 - +experimental problem solving.
- +An important effort in this respect is
 - +the new Partnership for a New American
 - +Education. This consortium, consisting of
 - +the state's three research universities--the
 - +University of Michigan, Michigan State
 - +University, and Wayne State University--
 - +is working closely with state government
 - +and the private sector to develop in the
 - +State of Michigan a model for higher
 - +education in America.
- + Universities must re-examine our
 - +priorities and ask ourselves whether we
 - +are not partly to blame and whether each
 - +of us should not put a much higher priority
 - +on preparing talented graduates for
 - +primary and secondary education. In this
 - +regard, we must pay particular attention to
 - +our own schools of education. Traditionally,
 - +these units have had the lowest status of
 - +any of our academic units on our campuses.
 - +During the 1970s and early 1980s our
 - +education schools were regarded as a haven
 - +for mediocre students and mediocre faculty.
 - +It is ironic that if one looks at the reform
 - +movement over the last five years, there is

- +very little mention made of our schools of
- +education. It is clear that our universities
- +need to mount much more effective programs
- +to train teachers, principals, and
- +superintendents.
- +Finally, our universities really can set
- +the pace for public education in America by
- +simply insisting on far higher entrance
- +requirements and communicating these
- +clearly to parents and prospective students.
- +In this way, we may be able to generate the
- +necessary pressures for reforms of our public
- +schools.
- +7. A Major Cultural Change:
 - +Demand Success
 - +Major changes in public perspectives
 - +are clearly needed. For example, we should
 - +shift public education to a "zero defect"
 - +philosophy, in which we simply will not
 - +tolerate failure. In essentially every other
 - +developed nation drop-outs are effectively
 - +eliminated by developing multiple track
 - +systems in which students who do not
 - +achieve the highest performance level are
 - +given many other options and chances to
 - +succeed. As a result, these nations have
 - +succeeded in building a highly-skilled and
 - +diverse workforce at all levels, thereby
 - +avoiding the incredible social costs of
 - +dropouts and the development of an
 - +underclass.
 - +It is clear that our students need to gain
 - +a greater sense of participation in the
 - +learning process, so that they feel
 - +responsible for their education and
 - +connected to their school--regarding
 - +themselves as a community of common
 - +concern. These partnerships must reach
 - +beyond the school and strongly involve the
 - +parents as well.
- +8. The Need for a "Sea Change"
 - +in Public Attitudes
 - +Part of our problem has to do with the
 - +absence of a national consensus on either the
 - +magnitudes or the solutions to the problem.
 - +While the seriousness of the problem may
 - +be beginning to dawn on us, we are still
 - +looking for cop-outs by blaming others; by
 - +complaining that we are already spending
 - +too much on public education; or by saying
 - +that the needs of the moment are more
 - +urgent, and we can deal with public
 - +education later when our economy is in
 - +better shape. Perhaps this procrastination
 - +is the greatest challenge that we must face
 - +if we are to build in this nation a system of
 - +public education appropriate for our future.
- +The Plan
 - +Background:
 - +Michigan K-12 system is massive and complex
 - +...562 districts

- +...\$6.7 billion per year (local, state, federal sources)
- +...1.5 million students
- +...82,000 teachers
- +...7,500 administrators and 65,000 other staff
- +...State Board, Department of Education (\$40 M)
- +Experience suggests that top-down efforts are very ineffective.
 - +Better to activate bottom-up forces at the school level
 - +which address educational quality.
- +Premise: All children can learn more than our schools--
 - +and most parents--currently expect of them.
- +General strategy
 - +To develop a challenging, coherent, and concrete set of academic standards
 - +to empower local schools to meet those standards, and to hold them
 - +accountable for the achievements of their students.
- +Key Words:
 - +management by objectives
 - +site-based management
 - +accountability
- +1. Clear objectives
 - +Develop clear objectives for our schools...
 - +...an ambitious and challenging core curriculum that
 - +focuses on higher order thinking and learning.
 - +Public Act 25 requires this...
 - +...but State Board proposed core curriculum is weak
 - +conditioned by the status quo, and does not meet
 - +the needs of schools for serious and coherent
 - +guidance in raising their educational sights.
 - +...Should follow lead of California and Connecticut.
 - +NOTE: These must not be local standards...
 - +...or Michigan standards
 - +...or even U.S. standards
 - +These must be world standards...
 - +since our children must learn to compete
 - +in a global community
 - +Hence, while educators and parents will be important
 - +in defining these objectives, so too will be
 - +“consumers” such as business, industry, and
 - +higher education.
- +2. Accurate assessment
 - +Develop methods for accurately assessing student
 - +achievement...which are aligned with objectives.
 - +Here, we have a good tool:
 - +...the Michigan Educational Assessment Program
 - +...but it is strongly resisted by teachers and school
 - +districts
 - +NOTE: Here it may be necessary to create truly
 - +independent assessment bodies...perhaps
 - +nonprofit corporations governed by boards representing
 - +wide constituencies
 - +Telling schools, parents, students...colleges and employers
 - +...and the public...how our schools are doing.
- +3. Moving to site-based management
 - +Breaking the chains of laws and bureaucracy that bind schools
 - +...allowing them to determine their own strategy for
 - +achieving the objectives
 - +We must shift genuine authority and resources to the school
 - +level to give principals and teachers new flexibility to
 - +try new approaches, reallocate resources, adjust
 - +staffing, ...and make their schools work better.
 - +A shift in authority to the school takes control away from
 - +state legislators, state officials, local school boards,

- +and central district offices. All of these groups must
- +agree to revoke existing policies that currently constrain
- +school activities, and to forbear from enacting new ones.
- +Providing strong support:
 - +...improved preparation of professional staff
 - +Michigan teacher education
 - +Dominance of teacher colleges...
 - +...produce 7,000 for 2,000 jobs
 - +...have 3 of to 5 factories in US
 - +Clearly need an overhaul
 - +...curriculum and materials development
 - +Who? Michigan Department of Education?
 - +Nonprofit entities?
 - +...modern management methods
 - +...exemplary practice sites
 - +Michigan Partnership for New Education
 - +Kalamazoo Area Math and Science Center
 - +...school finance reform
 - +Allowing them to implement a variety of options
 - +...parental choice
 - +...alternative certification
 - +...longer school years
 - +...merit teacher reward systems
 - +Special needs:
 - +Bring all children into the 3rd grade with solid skills
 - +in reading and mathematics
 - +...Full funding of Head Start for 4 year olds
 - +...Extended day kindergarten in poor schools
 - +Provide extra support for schools that serve concentrations
 - +of poor children
- +4. Insisting on accountability
 - +...Outcome-based accreditation
 - +...Business actions:
 - +Hiring decisions based on academic performance
 - +...Higher Education]
 - +Minimum graduate requirements (with remedial education
 - +required of those not meeting admission requirements)
 - +...New state authority to take over failing schools
 - +Those schools which are capable of moving toward objectives
 - +will be left alone.
 - +Those which cannot will be subject to a number of actions
 - +...alternative management
 - +...consolidation
 - +...financial penalties
- +The Real Challenge
 - +and the Real Solution
 - +Who is to blame for the plight faced by
 - +public education in America? Our schools?
 - +Our teachers and administrators?
 - +Certainly our schools must take strong
 - +actions to improve quality and strive
 - +harder to operate in a more cost-effective
 - +manner. They must be far more willing to
 - +embrace change, leaving behind the
 - +smokestack, industrial approach to
 - +education, and the blue-collar approach to
 - +their employees, the teachers. Certainly,
 - +too, our teachers and administrators must
 - +set higher standards and focus their efforts
 - +on education. But it is clear that we must
 - +not lay the primary blame for the crisis in

+public education on the schools themselves.
+In a sense, our schools have fallen victim to
+our own inertia. They have been crushed
+under the weight of a bureaucracy that
+smothers creativity and true
+accountability.

+What about our public officials? Are
+they to blame? Once again, it seems clear
+that many of those in elected public
+positions have given only lip service to the
+needs of education, responding with
+rhetoric or gimmicks when pressed. Yet,
+here, too, we must not assign primary blame
+for the crisis in public education to those
+holding elected office. Indeed, it seems
+clear that the message is beginning to get
+through to those in a position to act. Our
+elected leaders--whether in Washington,
+or in Lansing, or our local communities--
+would like nothing better than to make
+education their highest priority. They
+would like to become the education
+governor...or the education party...or the
+education president. They understand
+clearly the importance of investing in our
+human resources and are searching for
+creative ways to improve the quality of our
+schools and to provide adequate and
+equitable financial support. But they also
+face formidable constraints, since in the end
+the voters get what they ask for--and face
+it, folks--the electorate today says no more
+taxes...no more crime...no more cuts in social
+services or national defense...and our public
+officials have no choice but to respond.

+No, the real finger of blame for the
+crisis we face in public education should be
+pointed at you and at me. We are the ones
+who fail to demand the highest quality in
+our educational institutions. We are the
+ones who steadfastly resist a tax base
+adequate to support both our needs and
+desires and provide an adequate level of
+support for quality education in the state.
+We are the ones who block any effective
+efforts to achieve equitable financing of
+education in Michigan. We are the ones
+who are generally too busy to help our own
+children in their studies or participate in
+their activities.

+We have become consumers of the
+future, not investors in it.

+Something has changed in America. I
+was brought up in a long tradition in which
+one's first responsibility was to one's
+children. My parents took great interest in
+my study activities. They scrimped and
+saved for my college education. My wife
+and I have done the same for our own
+children. The education of our children
+always came first, before a new house, a

+fancy car, an exotic vacation. Obviously,
+most of you in this audience agree with me
+about the importance of education, since
+many of you have also made hard choices
+and sacrifices.

+But what about most of our fellow
+citizens? What has happened to us as a
+nation? Today's generation seems different.
+Perhaps it is that the "me" generation of
+the 1960s has grown up into comfortable
+yuppiehood. Perhaps our dilemma is in
+part due to a generation that has
+vigorously defended its rights, but failed to
+step up to its responsibilities. While it is
+clear that the public gives lip service to
+education, in the privacy of the voting
+booth they tell our public officials
+something quite different: to invest
+elsewhere--by building roads, or prisons, or
+football stadiums, rather than educating
+our youth.

+I must say that I find the attitude that
+we have taken as a society toward our most
+precious resource, our youth, is both callous
+and alarming. I, for one, simply cannot
+accept the excuse that we cannot afford this
+investment in the educational opportunities
+we offer our children. 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. We seem to have forgotten
+the commitments that past generations of
+citizens have made to provide us with
+outstanding educational opportunities.
+Instead we choose time and time again to
+deny these to our children and their
+descendants.

+But there is a different way to look at
+it. The real issue here is not the magnitude
+of our investment in education, it is rather
+the priority that we as a community, as a
+state, and as a nation place on investing on
+our children. To put it bluntly, we should
+feel both embarrassed and ashamed for
+robbing our youth, indeed our future, to pay
+for our own excesses.

+But suppose we take the cynical view
+that the challenge of responsibility and
+stewardship will simply not be a
+compelling enough argument to establish
+the importance of investing in human
+capital. There is an even more compelling
+argument, one suggesting a strong vested

+interest.

+If we do not invest in the youth of
+today, then it is clear that they will not
+become a sufficiently productive workforce
+to keep this nation strong and prosperous in
+the years ahead. To make this more
+apparent, let me note that by the year 2000
+there will be only three workers to support
+each retiree, and one of these will be a
+minority. Therefore, unless we make the
+investments today, you and I are not going
+to going to have much to look forward to
+once we reach the point where we must be
+supported by this society.

+But there is an even more cynical way
+to look at the challenge of public education.
+That is to simply evaluate it as one of a
+series of alternative investments. From
+this perspective, which do you believe
+makes more sense: to invest \$3,000 per year
+to keep a pre-school child on track, to
+invest \$5,000 a year to achieve a strong K-
+12 education, to invest \$10,000 per year to
+sustain a strong college education, or to
+invest \$25,000 a year to put someone in jail-
+and then lose the income and taxes paid by
+this person as a productive member of our
+society? The answer seems obvious, albeit
+frequently ignored!

+The Need for a New Coalition

+Today both our state and our nation face
+serious challenges that will clearly
+determine our future prosperity and well-
+being: the challenge of pluralism, the
+challenge of participation in a global
+community, the challenge of the age of
+knowledge, and the challenge of change
+itself. As we approach a new century, our
+state--just as our nation--is undergoing a
+profound and difficult transition to a new
+economic order. Our fabulously prosperous
+industrial economy is rapidly
+disappearing, and our challenge for the
+decade ahead is to take the steps necessary
+to build a new knowledge-based economy
+which will be competitive in a world
+marketplace.

+Let there be no mistake about this.
+This will not be an easy transition.
+Further, the outcome is still very much in
+doubt.

+It seems clear that as we prepare for
+the age of knowledge, our ability to sustain
+the strength of our state and our nation, to
+achieve quality of life for our citizens, will
+be determined more than any other factor
+by how we develop, nurture, and educate
+the most precious of our resources, our
+people.

+If we are to respond, we simply must
+reorder the priorities of this state and this

+nation. We must shift away from the
+temptation to address only the needs and
+desires of the moment. And instead, we
+must begin to make some of the key
+investments necessary for the long term, the
+investments for our people and our children.

+Our educational system is complex and
+decentralized, with the primary
+responsibility located at the state and
+local level. There is no simple solution. It
+is clear we must push on all fronts to
+improve the quality of public education.
+We must weave a strategy of many strands,
+a strategy that places existing programs in
+a larger context that establishes a clear
+sense of direction, develops leadership for
+the task, and assures continuity of effort.
+Above all, we must be consistent and
+persevere.

+It is clear that the challenge of public
+education should not be just the worry of
+local communities, or state government, or
+universities. It is everybody's concern!
+Each of us must step forward and unite to
+face the challenge of the future. We must
+work together to build new coalitions,
+including both the public and private
+sectors, state government, education,
+business, and labor, to develop an agenda
+appropriate to secure the future of our
+children, our state, and our nation.

+Michigan, indeed America, continues to
+be blessed with abundant natural resources
+and a people of great strength. But the
+writing is on the wall. If we are to prosper
+in an age of knowledge that is almost
+certainly our future, we must join together
+now to restore both our public and our
+personal investments in education, in our
+people and their ideas, in our children, and
+in our future.

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+