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View Related Topics

February 29, 2000, Tuesday, Late Edition - Final

SECTION: Section A; Page 1; Column 2; Foreign Desk

LENGTH: 1723 words

HEADLINE: Return Passage to **India:** Emigres Pay Back

BYLINE: By CELIA W. DUGGER

DATELINE: BOMBAY

BODY:

During the past generation, tens of thousands of **Indian engineers** left home for America and many got rich -- some fabulously rich -- in the technology boom. Along the way, they became symbols of a brain drain that scholars believed was sucking the best and brightest minds out of third world countries.

But an increasing though still modest number of **India's** biggest American success stories, whose lives are now firmly rooted in the United States, are beginning to come home to **India**, too, and not just to visit relatives, but also to start companies, invest their capital and indulge in philanthropy. Some of them say they should no longer be seen as proof of the brain drain, but as signs of a brain trust -- a view economists say is still overly optimistic.

Even so, in an era when airplanes, telephones, e-mail and fax machines have transformed the lives of prosperous emigrants, economists say that the linear idea of a one-way brain drain is giving way to a different paradigm of brains that circulate between native and adopted countries.

That pattern is now emerging in **India**, which watched as perhaps 25,000 of its top graduates left for the United States since the late 1960's. In the years when the technology explosion hit America, these **Indians** emerged as major players and now run more than 750 technology companies in California's **Silicon Valley** alone.]*

One of those who got away was Kanwal S. Rekhi, 54, who now periodically comes back for what he calls his "missionary work in **India**."

He said he went to America so his brain wouldn't go down the drain in socialist **India**, made \$300 million as an entrepreneur, executive and private investor in **Silicon Valley**, and retired five years ago.

Now, at the request of the prime minister's office in an **India** that is more market-driven, he is among those trying to raise \$1 billion for the six **Indian** Institutes of Technology, elite public universities that produced the thousands of graduates who left for the United States.

Some of those who left say they are getting involved in **India** now because they have succeeded as entrepreneurs and have money to spare, because there are economic opportunities in **India** and because the Hindu nationalist-led government is more open to their participation in the country's affairs.

The government has, for example, challenged them to raise the billion dollars for the institutes that educated them at **India's** expense before they went to the United States, where they enriched the

American economy.

"We're credible, successful people," Mr. Rekhi said. "Many of us are worth hundreds of millions of dollars. We're available to the **Indian** government and we provide a bridge to the United States. I do fund-raisers at my house for congressmen all the time."

Examples of these to-and-fro millionaires abound.

There's Desh Deshpande, 49, philanthropist. His telecommunications company, Sycamore Networks, was listed on the Nasdaq in October. His net worth has since skyrocketed to between \$4 billion and \$6 billion -- depending, he said, on the stock market and which day the money gets counted. He and his wife plan to give \$100 million over 20 years to their alma mater, the **Indian** Institute of Technology in Madras.

"There is that emotional tie," he said.

Pradeep Singh, 42, a graduate of the New Delhi institute, said his "lottery ticket came through" during eight years as a manager earning stock options at Microsoft.

He quit in the mid-1990's to start his own company, Aditi, which provides customer service via e-mail from **India** for corporations abroad. He now has two companies, lives four months a year in **Bangalore** and eight in Seattle, and employs 600 people -- 350 of them in **India**.

"My Dad died recently," he said. "He was proud of what I did overseas, but that was nothing like what he felt about what I've done here. He clipped all the stories."

And there's Rakesh Mathur, 43, a graduate of the Bombay technology institute. He and three other **Indians** founded a **Silicon Valley** company, Junglee.com -- an early comparison-shopping engine on the **Web**. It was sold in 1998 to Amazon.com in a stock deal that has made Mr. Mathur \$90 million richer.

He still has homes in Mountain View, Calif., and Seattle, but last year he also bought one in Pune. He has given \$1 million to his alma mater and started a new company, Purpleyogi.com, with offices in **Bangalore** and Mountain View.

On a recent visit to Bombay, he ventured back to the technology institute's 500-acre campus, driving down a grand main road lined by towering bottle palms and past the new **Kanwal Rekhi School of Information Technology now under construction, named for the American-made Indian philanthropist.**

For Mr. Mathur, who has the casual style of a Californian, it was a double homecoming. He went to college here and grew up on the campus because his father was a professor. He was back to visit a troika of ambitious students who are determined to get rich off the Internet -- and who had succeeded in making him their mentor.

Over 10-cent cups of coffee at a little outdoor cafe on campus, these young men had hatched their ideas, then pursued Mr. Mathur whenever he visited the campus and skipped a week of classes once to meet with him when he was in Delhi.

"We're different than our classmates because we realized there's opportunity here in **India**," said Kashyap Deorah, 20.

Graduates of the institutes -- which are harder to get into than Harvard -- have formed a transcontinental good-old-boy network (most of the students are still male) that connects Bombay, **Bangalore** and Hyderabad to **Silicon Valley**, Seattle and Boston.

The institutes themselves are among the few entities in **India** that are still seen as meritocracies,

unsullied by political influence. Admission is based solely on a grueling national entrance exam. Last year, of the 98,000 students who took it, only 3,000 won admission.

And the United States continues to exert a magnetic pull on **Indian** students and other **Indian** professionals. ~~Last year, a third of the 115,000 visas the United States issued to skilled workers went to Indians.~~

"Can I be frank?" asked Suman Kar, a 20-year-old senior at the Bombay institute, as he explained why he has accepted a job in **Silicon Valley**. "It's the money."

He said his new job will pay about \$60,000 a year, seven times what he would have earned here.

Graduates of the institutes have been the most sought-after **Indians** in **Silicon Valley** -- and **Indians** there have done very well, indeed. AnnaLee Saxenian, an economist at Berkeley, documented in an analysis of a Dun & Bradstreet database that 750 companies there are run by **Indians**.

Those companies produce more than \$3.5 billion in sales and employ more than 16,000 people.

And as **Indians** have risen to positions of influence in corporate suites throughout the American economy, they have played a crucial role in giving credibility to business people based in **India** who are selling software services to American companies.

"When the **Indian** guy comes knocking at your door, selling something, the first thought on your mind isn't snakes and elephants," said Mr. Singh, formerly of Microsoft.

Software exports from **India** grew by more than 50 percent a year in the 1990's as businesses here found a niche in employing high-skilled, low-wage computer **engineers** in **India** to write computer code for businesses abroad. The industry now employs 280,000 people and is expected to have \$4 billion in revenues this year, a majority from sales to American companies, according to the New Delhi-based National Association of Software and Service Companies.

Professor Saxenian had once thought that few of them would take their money or themselves back to **India**, but a recent visit to **Bangalore** changed her view.

She ran into an **Indian** entrepreneur from the valley, Sanjay Anandaram, and learned that he had returned to help start a new company that will develop and finance **Indian** technology ventures -- and he was not exceptional.

"Change is happening fast," she said. "At every level, you see personal and business connections to **India** that were not there even two years ago."

The declining financial situation of the institutes is one of the factors drawing them back. In 1993, the government cut its funding of the institutes and for the first time allowed individuals to donate money directly to them. The alumni in the United States have given most of the millions raised so far for the Bombay institute. The Indus Entrepreneurs, a group founded by **Indians** in **Silicon Valley**, has been instrumental in raising the money.

Economists who had once seen the brain drain as harmful, now see the diaspora it has spawned as a source of strength to developing countries.

"The emigres often work as a Trojan horse, lobbying on your behalf," said the Columbia University economics professor Jagdish Bhagwati, himself a native of **India**. "They use external opportunities to succeed prodigiously in different occupations. And they can bring their skills and funds home to assist the country in its economic takeoff."

Mr. Mathur, the **Web** entrepreneur, is such a person.

The three students he advises came up with an idea that caught his imagination. On his recent visit, they formally presented their proposal for a **Web** site called iportia.com -- the site is up and running, but their company's exact product is still undisclosed -- in a conference room in a downtown Bombay hotel.

Mr. Mathur and another prominent graduate, Nandan M. Nilekani, chief operating officer of **Infosys** Technologies, and Deepak B. Phatak, head of the computer science department at the institute in Bombay, listened attentively.

When the students finished, the older men asked them to leave the room, then considered whether to make this the university's first attempt to incubate a student business that it would partly own.

The students stood outside waiting nervously. Would Mr. Mathur put up the \$250,000 on the university's behalf that would let them make their dream real?

After a half hour, the students were summoned back. The grownups had decided that the young men had a great idea.

The grinning students took turns shaking hands with Mr. Mathur, who turned to the professor, and exclaimed, "Phatak, Sahib, they have to make at least \$100 million for you!"

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GRAPHIC: Photos: Students talk over coffee at the **Indian** Institute of Technology in Bombay, one of six elite public universities that produced thousands of graduates who left for the United States. Many, having succeeded, are returning. (Celia Dugger/The New York Times)(pg. A11); Pradeep Singh, center, with staff members of his e-mail company, at his home in **Bangalore**. He splits his time between there and Seattle. (Namas Bhojani for The New York Times))(pg. A1)

THE WHITE HOUSE

Office of the Press Secretary
(Los Angeles, California)

For Immediate Release

January 21, 2000

REMARKS BY THE PRESIDENT
AT SCIENCE AND TECHNOLOGY EVENT

California Institute of Technology
Pasadena, California

11:00 A.M. PST

THE PRESIDENT: Thank you so much. Dr. Moore, President Baltimore; to the faculty and students at Cal Tech, and to people involved in NASA's JPL out here. I want to thank Representatives Dreier, Baca and Millender-McDonald for coming with me today, and for the work they do in your behalf back in Washington. I want to thank three members of our Science and Technology team for being here -- my Science Advisor Neal Lane; Dr. Rita Colwell, the NSF Director; and my good friend, the Secretary of Energy, Bill Richardson, who has done a great job with our national labs to keep them being innovators in fields from computational science to environmental technology.

One person who would have liked to have been here today and I can tell you thinks that he would be a better representative of our administration on this topic is the Vice President. When we took office together, the fact that I was challenged scientifically and technologically was standing joke. (Laughter.) And he wants all of you to know that he's campaigning all over the country with a Palm 7 on his hip. (Laughter.)

He wants you to know that he loves science and technology so much, he's not even angry that Cal Tech beat out Harvard for top spot in the U.S. News rankings this year. (Laughter.) I think it has something to do with the relative electoral votes of California and Massachusetts. (Laughter.)

But before I came out here I told Dr. Moore and Dr. Baltimore that it was a real thrill for me to meet Dr. Moore, that even I knew what Moore's Law was; and that before the Vice President became otherwise occupied, we used to have weekly lunches and I'd talked to him about politics and he'd give me lectures about climate change. (Laughter.)

But we once got into this hilarious conversation about the practical applications of Moore's Law, like it explains why every cable network can double the number of talk shows every year that no one wants to listen to. (Laughter.) And so it's a real thrill for me to be here. (Laughter.)

Actually, I come with some trepidation. An eight-year-old child met me at the airport, and she and her brother came with their father, who is a friend of mine, and she brought me a letter from her third grade class. And the letter had all these questions: What was your favorite book when you were in the third grade? What did you collect then? What do you collect now? And one of the questions was, are you ever nervous when you're speaking before large audiences.

And the answer -- and I was writing all these answers so we could type up a letter -- I said, not usually. But I mean, I'm sort of nervous here today. (Laughter.) And I told somebody I was nervous, one of the wags back at the White House with a sense of humor, and he said, well, you know the Einstein millennial story, don't you -- trying to help me get unnervous. (Laughter.) I said, so I said, no -- you always learn to be patient in the face of other people's jokes. It's one of the great social skills that an American can develop. (Laughter.)

So I said, no. And he said, well, God decides to give America a millennial gift, and the gift is to send Einstein back to Earth for a few days to talk to ordinary folks, because he was the greatest brain of the last millennium. And they have the first meeting in a nice little hall like this. And it's absolutely packed, and these three big, burly guys push their way to the front, shoving everyone else to the side. So Einstein politely takes them first and he says to the first guy, well, what's your IQ, young man? And he said 240. He said wonderful, let's talk about how I thought up the theory of relativity. And they have a terrific conversation.

The second guy, he says, what's your IQ? He said, 140. He said, let's talk about globalization and its impact on climate change. And they had a terrific conversation. And the third guy kind of hung his head, and he said, what's your IQ? And he said, 40. And Einstein said, oh, don't worry. You can always go into politics. (Laughter.)

I want you to know, though, in preparation for this day I've been spending a lot of time trying to get in touch with my inner nerd. (Laughter and applause.) And my wife helped me, because she's been having these Millennium Lectures at the White House to discuss big things. And the other night, she had Vince Cerf, who was one of the founders of the Internet, and Eric Lander, who's helped to develop many of the tools of modern genome research. And that really got me thinking, and I want to say some more serious things about that in a moment. And then my staff challenged me to actually order Christmas gifts over the Internet. And I did that. And while doing that, I learned that with just a click of a mouse, I could actually order -- and I did this, I'm embarrassed to say -- I ordered Arkansas smoked ham and sausage delivered to my door. (Laughter.) So I think the 21st century has more for me than I had originally thought. (Laughter.)

As all of you know, Albert Einstein spent a lot of time here at Cal Tech in the 1930s. And three weeks ago, Time Magazine crowned him the Person of the Century. The fact that he won this honor over people like Franklin Roosevelt and Mohandas Gandhi is not only an incredible testament to the quantum leaps in knowledge that he achieved for all humanity, but also for the 20th century's earth-shaking advances in science and technology.

Just as an aside, I'd like to say because we're here at Cal Tech, Einstein's contributions remind us of how greatly American science and technology and, therefore, American society have benefitted and continue to benefit from the extraordinary gifts of scientists and engineers who are born in other countries, and we should continue to welcome them to our shores. (Applause.)

But the reason so many of you live, work and study here is that there are so many more questions yet to be answered: How does the brain actually produce the phenomenon of consciousness? How do we translate insights from neuroscience into more productive learning environments for all our children? Why do we age -- the question I ponder more and more these days. (Laughter.) I looked at a picture of myself when I was inaugurated the first time the other day, and it scared me to death. (Laughter.) And so I wonder, is this

preprogrammed, or wear and tear? Are we alone in the universe? What causes gamma ray bursts? What makes up the missing mass of the universe? What's in those black holes, anyway? And maybe the biggest question of all: How in the wide world can you add \$3 billion in market capitalization simply by adding .com to the end of a name? (Laughter.)

You will find the answers to the serious questions I posed and to many others. It was this brilliant Cal Tech community that first located genes on chromosomes and unlocked the secrets of chemical bonds and quarks. You were the propulsive force behind jet flight and built America's first satellites. You made it possible for us to manufacture microchips of ever-increasing complexity and gave us our first guided tour on the surface of Mars. With your new gravitational wave observatory, you will open an entirely new window on the mysteries of the universe, observing the propagating ripples which Einstein predicted 84 years ago.

Today, I came here to thank you for all you're doing to advance the march of human knowledge and to announce what we intend to do to accelerate that march by greatly increasing our national investments in science and technology.

The budget I will submit to Congress in just a few days will include a \$2.8 billion increase in our 21st century research fund. This will support a \$1 billion increase in biomedical research for the National Institutes of Health; \$675 million, which is double the previous largest dollar increase for the National Science Foundation in its entire 50-year history; and major funding increases in areas from information technology to space exploration to the development of cleaner sources of energy.

This budget makes research at our nation's universities a top priority, with an increase in funding of more than \$1 billion. University-based research provides the kind of fundamental insights that are most important in any new technology or treatment. It helps to produce the next generation of scientists, engineers, entrepreneurs. And we intend to give university-based research a major lift.

The budget supports increases not only in biomedical research, but also in all scientific and engineering fields. As you know, advances in one field are often dependent on breakthroughs in other disciplines. For example, advances in computer science are helping us to develop drugs more rapidly, and to move from sequencing the human genome to better understanding the functions of individual genes.

My budget supports a major new national nanotechnology initiative worth \$500 million. Cal Tech is no stranger to the idea of nanotechnology, the ability to manipulate matter at the atomic and molecular level. Over 40 years ago, Cal Tech's own Richard Symonds asked, what would happen if we could arrange the atoms one by one the way we want them? Well, you can see one example of this in this sign behind me, that Dr. Lane furnished for Cal Tech to hang as the backdrop for this speech. It's the Western hemisphere in gold atoms. But I think you will find more enduring uses for nanotechnology.

Just imagine, materials with 10 times the strength of steel and only a fraction of the weight; shrinking all the information at the Library of Congress into a device the size of a sugar cube; detecting cancerous tumors that are only a few cells in size. Some of these research goals will take 20 or more years to achieve. But that is why -- precisely why -- as Dr. Baltimore said, there is such a critical role for the federal government.

As I announced yesterday, this budget also includes an

historic initiative to make higher education more affordable. I am well aware of the fact that I would not have become President of the United States without loans and grants and jobs that helped me get through college and law school; and that more and more, given the cost of higher education, a higher and higher percentage of our students need more of all those things. This has been a virtual obsession for me ever since I became President. I was determined to leave office saying we had opened the doors of college to all Americans.

We have come a long way, by changing the student loan program to make it less expensive and to give young people more options for paying off their loans, including as a percentage of their income when they leave school. We've increased the number of work-study grants from \$700,000 to \$1 million. We've dramatically increased the Pell Grant program, and the HOPE Scholarship tax credit and the Lifetime Learning tax credits we adopted in 1997 last year alone had almost 5 million beneficiaries in institutions of higher education in the United States. (Applause.)

Yesterday, I proposed that, for the first time, we make college tuition tax deductible, and that we do it in a way that would benefit even more people on more modest incomes so that they could get the same 28-percent benefit, even if they're in the 15-percent tax category. I think this is very important. (Applause.)

The budget contains another increase in Pell grants, special initiatives to help minority students get into science and engineering and graduate. (Applause.) Special efforts -- that is basically a test program for several thousand students now -- to try to do something about the extraordinarily high dropout rate from college.

Now, over two-thirds of the high school graduates are actually going to go into college this year. That's an increase of over 10 percent in the last seven years. That's quite a large increase in a short time. But the dropout rate has increased correspondingly. We want to know why. Is it for financial reasons? Is it because people weren't prepared? Could they all be just idiosyncratic personal reasons? And we intend to do everything we can with a very large test group to see what we can do to turn this situation around.

And, finally, we're going to double the size of our Gear-Up program to 1.4 million young people. That's the program where people in universities and college all across America mentor middle-school kids who are at risk to try to help them develop the skills and the belief that they can go to college, and simultaneously to tell them and their parents exactly what they can expect in the way of aid under current law if they do go, so they will know. Many people still don't know that the barriers to their going on to college have been removed. So I hope you will also support this part of our budget, because the young people of our country and their families need it.

In addition to announcing our new research budget and our efforts to make colleges more affordable, I'd like to try to achieve one other mission here today. First, I want to take a step back to acknowledge that we have not done a good enough job in helping all Americans to understand why we need very, very large investment in science and technology.

Far too many of our citizens think science is something done by men and women who are in white lab coats behind closed doors that somehow leads to satellite TV and Dolly the sheep. And it's all a mystery. It is our responsibility to open the world of science to more of our fellow citizens; to help them understand the great questions science is seeking to answer and to help them see how those answers will

actually affect their lives and their children's lives in profoundly important and positive ways.

First, we have to make sure Americans understand the contributions science and technology are making right now to the present level of economic growth, something Dr. Baltimore referred to. For example, because of our early investments in the Internet, America now leads the world in information technology, an industry that now accounts for a third of our economic growth, although only 8 percent of our work force; that generates jobs that pay 80 percent more than the private sector average.

If you look at that -- what does that mean to ordinary people, and what does it mean to the nature of the economy we're living in? I have never told the American people that we had repealed the ordinary laws of supply and demand, or the business cycle. But we have stretched them quite a lot.

In February, next month, we will have the longest economic expansion in the history of the United States -- outstripping even those that required full mobilization for war. Now, part of that is because we have pursued, I believe, sound policies -- to get rid of the deficit; to start running surpluses, the first back-to-back surpluses in 42 years; to keep our markets open, with 270 trade agreements; to argue, as I have, that not only exports are benefited by open markets, we also benefit from the imports, because they're a powerful brake on inflation and allow us to continue to grow.

But the real reason this thing keeps going on and on and on is that -- all we did in the government was to set the conditions, and provide the tools, for the American people to succeed. The real reason is the exponential growth in information technology, and how it is rifling through every other sector of our economy and reinforcing the material science revolution, which proceeded it by a few years, but which continues to the present day.

When I became President, there were only 50 sites on the Worldwide Web -- 50. When I became President -- that seemed like a long time ago to the students, but the rest of you will know -- (laughter) -- it's just like yesterday. There are now over 50 million. Think of it. In seven years, from 50 to over 50 million. It is changing everything about the way we work and live and relate to each other.

I was in Northern California a few weeks ago with a lot of really fascinating young people who work with E-bay -- a lot of you have probably bought things, maybe you've even sold things on E-bay. But for example, one of the things I learned is that in addition to the employees of E-bay, there are now 20,000 people whose primary source of income is buying and selling on E-bay. They do it for a living. And several of them -- not insubstantial number of them -- were on welfare before they found a way to bring their entrepreneurial skills to bare by trading on E-bay. It has changed everything.

So we have to say to people, if you like the fact that we have the lowest unemployment and welfare rolls in 30 years, the lowest minority unemployment rates ever recorded, the lowest female unemployment rate in 40 years, the lowest poverty rates in 20 years, the lowest single household poverty rate in 46 years, you have to understand that all that, at least in large part, is because of the ability of the discoveries of science and technology to rifle through our ordinary lives. And it is very, very important that all of us do a better job of that.

I have proposed in this budget a 36 percent increase in

information technology research alone, so that researchers will be able to tackle a wide array of other challenges. How do we find, precisely, the piece of information we're looking for in an ever-larger ocean of raw data. How do we design computers that are usable by everyone including people with disabilities.

3670
increase

One of the most fascinating relationships I've developed -- we were talking on the plane ride out here about one of the great things about being President is nearly anybody will come to talk to you -- once, anyway. (Laughter.) And we were talking about all the people I had been privileged to meet in the last seven years. You know, I have developed quite a good personal friendship with Steven Hawking, who, as all of you know, has lived longer with Lou Gehrig's disease, as far as we know, than any person who's ever lived -- partly, I am convinced, because of not only the size of his brain, but the size of his heart. But it is fascinating to see what technology has permitted this man to do.

Just a few years ago, he could have had the biggest brain in the world, and no one could have known it, because it could not have gotten out. There is no speaking capacity, almost no movement left. He can just move his thumb, and hold in his hand this remarkable little tracer that goes through a whole dictionary of words that he has, that he runs through with rapid speed. He picks the word he wants, puts the sentences together, and then an automated voice tells you what he just said.

How can we make it even easier for him? How can we make it even easier for other people? This will be a huge issue. Make no mistake about it, the liberation of Americans with disabilities is also in no small measure the product of the revolution in science and technology.

There are also other uses. I read the other day that manufacturers are soon going to introduce a refrigerator that can scan the bar codes of empty packages and expired goods -- (laughter) -- and order new groceries for you over the Internet. (Laughter.) Now, everybody who's ever poured out a carton of bad milk will love this. (Laughter.) You don't have to smell your bad milk anymore. It won't be long before the computer will refuse to order what's bad for you -- (laughter) -- and only pick items off Dean Ornish's diet. And then we'll all be in great shape. (Laughter.)

The second thing I think we have to do is let Americans know how investments in science and technology, broadly stated, will allow us to lead longer, healthier lives. Everybody knows now that you can put money into cancer research -- and thank God we've discovered two of the genes that are high predictors of breast cancer, for example, in the last couple of years -- but we need for more Americans to understand why we need a broad research agenda in science and technology, for the health of Americans. (Applause.)

In the 20th century, American life expectancy went from 47 years to almost 77 years, thanks to penicillin and vaccines for many childhood diseases. We were talking the other day about the impact -- I'm old enough to remember the first polio vaccine. And I remember how our mothers herded us in line and made us stand there waiting for our shot. And it was like they were all holding their breath, praying and hoping that we would get our shot before we got polio. It's something that young people today can hardly imagine, but it hung like a cloud over the families of my parents' generation. Now, we have this incredible life expectancy -- today, the average American who lives to be 65 has a life expectancy of 83 -- already. And we are clearly on the cusp of greater advances.

Later this year, researchers expect to finish the first complete sequencing of the genome -- all 3 billion letters and 80,000 genes that make up our DNA code. Since so many diseases have a genetic component, the completion of this project will clearly lead to a revolution in our ability to detect, treat and prevent many diseases. For example, patients with some forms of leukemia and breast cancer soon may receive sophisticated new drugs that elegantly actually target the precise cancer cells with little or no risk to healthy cells. That will change everything.

Our new trove of genomic data may even allow us to identify and cure most genetic diseases before a child is even born. Most people just take it as a given now that within the next few years, when young mothers bring their babies home from the hospital, they will bring along a genetic map of their children's makeup, what the problems are, what the challenges are, what the strengths are. It will be scary to some extent, but it also plainly will allow us to raise our children in a way that will enhance the length and quality of their lives.

But it's important to recognize that we never could have had the revolution in the genome project without the revolution in computer science as well, that they intersected. Research at the intersection between biomedical research and engineering will also lead to amazing breakthroughs. Already, scientists are working on -- we've seen it on television now -- an artificial retina to treat certain kinds of blindness, and methods of directly stimulating the spinal cord to allow people who are paralyzed to work. Now, you think of that.

Last year, for the first time, to give you an idea of the impact of technology on traditional medical research, last year, for the first time, medical researchers transplanted nerves from the limbs to the spine of a laboratory animal that had its spine severed and achieved movement in the lower limbs for the first time. That had never happened before.

Now, because of advances in the intersection between science and engineering, we may not have to keep working on that. We may actually be able to program a chip that will stimulate the exact movements that were prevented by the severing or the injury of a spine. And all the people that we have seen hobbled by these terrible injuries might be able to get up and walk. Because there was medical research, yes, but there was also research on the engineering, nonbiological components of this endeavor. We have to do a better job of explaining that to the American people.

Third, advances in science and technology are helping us to preserve our environment in ways that preserve more sustainable and widespread economic growth. And that is very important.

Let me just give you an example. Not far from here in Southern California, a couple years ago the Department of Energy, working with the National Homebuilders and HUD, helped to construct a moderate- and low-income housing community, with glass in the windows that keeps out four or five times as much heat or cold, and lets in even more light. And that, coupled with the latest insulation technology and the latest lighting in the house, enabled the houses to be marketed to people of modest incomes, with the promise that their electric bills would average 40 percent below what they would in a home of that size built in the traditional manner. I can tell you that after two years, the power bills are averaging 65 percent less. And we can't build enough houses for the people that want them.

The Detroit Auto Show this year is showcasing cars that, I'm

proud to say, were developed as part of our partnership for new generation vehicles that the Vice President headed up, and we started way back in '93. We brought in the auto workers and the auto companies and we said, look, instead of having a big fight about this, why don't we work together and figure out how to use technology to dramatically increase mileage. And a lot of you are probably familiar -- they're using fuel-injection engines, which cuts a lot of the greenhouse gas emissions; some using developed mixed-fuel cars that start on electricity, switch to fuel after you reach a certain stage, and then go back to electricity when you slow down back to that speed, because 70 percent of the greenhouse gas emissions are used in starting and stopping cars.

And there are all kinds of other things being developed. But this year the Detroit Auto Show has cars making 70, 80 miles a gallon, that are four-seater cars, that will be on the market in a couple of years. You can buy Japanese cars this year on the market that get about 70 miles to the gallon, but they're small two-seaters. Last year I went and saw cars that are 500 to 1,000 pounds lighter than traditional cars, and score at least as well on all the damage tests -- again because of the revolution in material science, with composite materials being used in the cars.

And the big thing that's coming up in this area is, before you know it, I believe we will crack the chemical barriers to truly efficient production of biomass fuels. One of the reasons you see this whole debate -- in the presidential campaign, if you're following it, you know the big argument is, is it a waste of money to push ethanol or not, if it takes seven gallons of gasoline to make eight gallons of ethanol. But they're on the verge of a chemical breakthrough that is analogous to what was done when crude oil could be transferred efficiently into gasoline. And when that happens, you'll be able to make eight gallons of biomass -- not just from corn, but from weeds, from rice hulls, from anything -- for about one gallon of fuel. That will be the equivalent therefore, in environmental terms, of cars that get hundreds of miles a gallon. And the world, the environmental world, will be changed forever. And that's -- one-third of our greenhouse gas emissions are in transportation.

Now, I just want to kind of go off the script a little to hammer this home, because big ideas in science matter. And once you make a big breakthrough, then thousands and thousands of things follow that have immense practical significance. But you must also know and believe that being in the grip of a big idea that is wrong can be absolutely disastrous.

So today, in Washington and in much of the world, there is a debate that goes something like this: The overwhelming evidence of science is that the climate is warming at an unsustainable rate due to human activity. And then there's this old idea, which says, well, that's really too bad, but a country can't grow rich or stay rich and sustain a middle-class lifestyle, unless every year it puts more greenhouse gases into the atmosphere than it did the year before. And you certainly can't drastically cut them, and maintain your level of wealth.

Our administration spent hundreds of thousands of dollars last year complying with requests to appear before a House subcommittee that believes that our passion about climate change is some sort of subversive plot to wreck the American economy. (Laughter.) Either that or -- you know, I've been reading too many kooky books or something. (Laughter.) They think it's just crazy. Why? Because they can't face the fact that we would do anything to hurt the American economy, and they really believed it would. So I would argue to you that here is a

place where we're in the grip of an idea that is wrong.

Our efforts to get India and China and other big countries that will soon surpass us in greenhouse gas emissions to cooperate with us, not in regulation, but in new technologies, to help them grow rich differently, always keep running up against the barrier of suspicious officials who believe somehow this is kind of an American plot to keep them poor. Why? Because they're in the grip of an idea that isn't right anymore. It is simply not true that to grow rich, you have to put more greenhouse gases in the atmosphere.

So again, I say we have to do a better job of explaining the contribution that science and technology can make to saving the planet and allowing us to still have prosperous lives -- and, I would argue, to allow us to have more prosperous lives and better lives that would otherwise be the case, certainly within 40 to 50 years, if we don't act and act now. This is profoundly important. (Applause.)

Finally, I think we have to do a better job of having an open debate about the responsibilities that all these advances and discoveries will clearly impose: The same genetic revolution that can offer new hope for millions of Americans could also be used to deny people health insurance; cloning human beings; information technology which helps to educate children and provide telemedicine to rural communities could also be used to create disturbingly detailed profiles of every move our citizens make on line.

The federal government, I think, has a role to play in meeting these challenges as well. That's why we've put forward strict rules and penalties to limit the use and release of medical records; why we've worked with Congress to ban the cloning of human beings, while preserving our ability to use the morally and medically acceptable applications of cloning technology, which I believe are profoundly important; why we're working with the Internet industry to ensure that consumers -- consumers -- have control over how their personal information is used.

It's up to all of us to figure out how to use the new powers that science and technology give us in a responsible way. Just because we can do something doesn't mean we should. It is incumbent, therefore, upon both scientists and public servants to involve the public in a great debate to ensure that science serves humanity -- always -- and never the other way around.

On this campus nearly 70 years ago, Albert Einstein said, "Never forget this, in the midst of your diagrams and equations: concern for man himself and his fate must always form the chief interest of all technical endeavors." Today, at the dawn of this new millennium, we see for all of you, particularly the young people in this audience, an era of unparalleled promise and possibility. Our relentless quest to understand what we do not yet know, which has defined Americans from our beginnings, will have more advances in the 21st century than at any other time in history. We must be wise as we advance.

I told you earlier that the First Lady sponsored a Millennium Evening with Vince Cerf and Professor Lander. One of the most interesting things he said about his genomic research confirmed not other scientific research, but the teachings of almost every religion in the world. He said that, genetically, we are 99.9 percent the same. And, he said, furthermore, that the genetic differences among individuals within a given racial or ethnic group are greater than the differences between groups as a whole -- suggesting that we are not only our brothers' and sisters' keepers, but in fundamental genetic ways, we are our brothers and sisters.

And I leave you with this thought. I think the supreme irony of our time is that I can come here as President and have the high honor of discussing these unfathomable advances wrought by the human intellect, that have occurred and the even greater ones yet to occur, in a world where the biggest social problem is the oldest demon of human society -- we are still afraid of people who aren't like us. And fear leads to distrust, and distrust leads to dehumanization, and dehumanization leads to violence.

And it is really quite interesting that the end of the Cold War has marked an upsurge in ethnic and racial and tribal and religious hatred and conflict around the world; and that even in our own country we see countless examples of hate crimes from people who believe that others are different and, therefore, to be distrusted and feared and dehumanized.

You have the power to put science and technology at work advancing the human condition as never before. Always remember to keep your values at the core of what you do. And tell every one of your fellow citizens, and indeed people with whom you come in contact all across the world, that every single scientific advance confirms over and over again the most important facts of life -- our common humanity.

Thank you very much. (Applause.)

END

11:40 A.M. PST

REMARKS BY VICE PRESIDENT AL GORE
THOMAS JEFFERSON HIGH SCHOOL
Saturday, June 20, 1999

Principal Jones; faculty and staff; family and friends: I want to thank you for the honor of being here tonight. Most of all, I want to say congratulations to the Class of 1999!

I know I wasn't your first choice to be here tonight. A few weeks ago, the Washington Post asked local high school students who they would like to see speak to their graduating class.

Unfortunately, Ricky Martin couldn't be here tonight.

Leonardo DiCaprio is shooting a movie.

And Jennifer Love Hewitt is trying to work things out with Bailey.

So instead, you're stuck here tonight with a guy who thinks that Dawsons Creek is a river in Southeast Virginia. Which it is, by the way.

I am not here tonight to do what other graduation speakers have done the past month. I'm not going to tell you to wear sunscreen. I'm not going to say: "Oh, *behave*." And I still have no idea why Anakin Skywalker turned to the dark side.

I think maybe it's because he didn't wear sunscreen.

[Ricky Martin is the hottest singer in America today. Leonardo DiCaprio starred in Titanic and is loved by teenage girls. Jennifer Love Hewitt stars in the popular teen hit Party of Five, where her character dates a character named Bailey. Dawson's Creek is America's most popular teen show, and Dawsons Creek is a river near Richmond. The sunscreen reference is from that famous commencement address attributed to Kurt Vonnegut, which is now a popular song running on local radio stations. "Oh behave" is Austin Power's favorite saying, currently the #1 movie in America. Anakin Skywalker is Darth Vader as a young child. Fans were upset that the new Star Wars movie didn't explain why he turned to the "Dark Side of the Force."]

The truth is, this is not that kind of school. The real reason I am here was revealed in an airline magazine a few years ago. They had a list of 31 signs that technology has taken over your life. According to the list, you know technology has taken over your life:

If you know your E-Mail Address, but not your Social Security number.

If you rotate your screen saver more than your tires.

If you have never sat through a movie without having at least one device on your body beep or buzz.

And my personal favorite, number 23: If Al Gore strikes you as an "intriguing" fellow.

But I understand the role of a commencement speaker. As an old friend of mine once reminded me: "commencement speakers should think of themselves as the body at an old-

fashioned Irish wake. They need you in order to have the party, but they don't expect you to say very much." That's advice I intend to follow tonight.

But you don't need my advice. As a proud father who watched one of his three daughters graduate from college last week, I understand: the best advice all of you are going to receive today will not come from the person standing in front of you, but from the people who are sitting behind you. Before we go any further, let's hear it for your parents and your families

If I could offer one piece of advice to the class of 1999, I'd say this: make sure you stay in touch with members of your class – because the friendships you've made here could last a lifetime. Just ask one of your classmates, Katie Day. Back in 1965, I graduated from high school with her father, Bart – who is here with us tonight.

The world we graduated into back in 1965 was very different than today. Terms that you use at this school every day had very different meanings for us. Back then, chips were something you ate, windows were something you washed, discs were something you played, bugs were something you zapped, semiconductors were small musicians – and the Internet . . . well, let's just say, it hadn't been invented yet.

Today, we stand at the dawn of a new century with our eyes wide open and our mouths agape at the possibilities of the future. All of you are stepping into a world today in which new advances in science and technology are allowing us to explore vast new frontiers -- from a galaxy 12 billion light years away to the smallest genetic switch inside a human cell. Today, the road of discovery is rapidly becoming a highway of light and speed connecting our largest cities to the smallest villages across the globe.

Just look at the pace of change. NASA announced released details that early next year, it will flight test the first air-breathing space engine, which promises to make space travel routine in the 21st Century. Scientists working on the Human Genome project say they will finish a year earlier than predicted, in 2002 – making possible new treatments to prevent cancer, diabetes, and Alzheimer's Disease. A small company in California has even unveiled camera-on-a-chip technology that can capture 500 images a second – fast enough to trace the path of a speeding bullet, or watch a virus reproduce inside a cell.

What is most remarkable is that all of these developments have occurred not in the last 12 months or the last 12 weeks – but the last 12 days. Who knows what the next 12 will bring.

What we do know is that Thomas Jefferson has given you the academic knowledge you need to prosper in this accelerated world. As the last class of this century, you were almost guaranteed a special spot in history. But together, you've made history for an entirely different reason. This class has 126 National Merit Finalists – which is surely a national record. And you've matched your accomplishment in the classroom with accomplishment on the playing field. Women's crew – national champs. Men's crew – state champs. Track team – district champs. And the football team even beat Chantilly High. Who would have imagined that this school's bumper sticker would read: "Jefferson: I came for the sports."

But if you came for the sports, you'll be remembered for the science. This is probably the only high school in America with its very own computer virus [TJ2000] – and students who

I have been in your country now for four days, and I have had a wonderful time. But I have to tell you: I have been looking forward to coming to high-tech city the whole week. One of the great personal joys of being President for me has been the opportunity to be involved with people who are pushing the frontiers of science and technology, and to study subjects that I haven't really thought seriously about since I was in my late teens.

When I took office, it is safe to say that I was both scientifically and technologically challenged. Terms that you use here every day had very different meanings when I was in school. Back then, chips were something you ate, windows were something you washed, bugs were something you zapped, and semiconductors were small musicians. In my life, disks have gone from being something you play to something you format, and now, as I get older, something you slip.

But there is one thing that hasn't changed: the most powerful force in this constantly changing world is freedom. There is nothing that frees up more of the human potential and the human imagination like freedom. And all of you are using your freedom to ask and answer some of the greatest questions of our time.

One of the best kept secrets in
the world today is the profound
impact India and India-Am
are having on the world of int.
tech.

Internet stats
www.nva.ie

Andy Yamaguchi
62380

not only understand how it works, but know how to disable it. And let's not forget the 15 students who were semi-finalists in Intel's 1999 Science Talent Search. Listen to some of these paper topics: "Short Time-Scale Variability in the External Shock Model of Gamma Ray Bursts." "Acellular Hemoglobin Degradation in the Presence of Glutathion." And, my favorite: "the Development of a Speaker-Independent Discrete Utterance Voice Recognition System to Control Peripheral Devices."

I did some checking on that last gadget. The experts tell me that it's a simple device that when operational, will make something do what you tell them to do. Parents, I know what you're thinking: this couldn't be invented soon enough.

There's no question that all of you have the knowledge to succeed. But tonight, our hearts are also filled with hope that this school and this community have given you something far greater than raw knowledge. We hope that they have grounded you with values. The secrets of science may define the parameters of your adult existence, but it is your values that will truly determine the quality of your communities. And it is your values that will animate the culture you create.

For all the stunning capabilities of the information revolution, we can never forget that at its heart, our newest technology must be a vehicle to deepen and extend our oldest and most enduring values. More than any other time in our history, our newest discoveries are making it possible to make real what centuries of human experience have aspired to create – to end suffering, to eradicate disease, to promote freedom, to educate our children, and to lift our families and our communities. In a world once limited by borders and geography, the only limits we face today are the limits of our own imaginations.

More and more, it will be a world shaped by your imaginations. For more than 200 years, America has been shaped by its young. It was a 32 year-old Thomas Jefferson who wrote the Declaration of Independence, and a 26 year-old Martin Luther King who led the bus boycott at Montgomery. But there has never been an age when young people have been more responsible for defining the world we live in than today. Steve Jobs started Apple, Bill Gates started Microsoft, and Michael Dell started Dell Computers – when they were 21. By contrast, Marc Andressen and Jeff Bezos were old men when they launched Netscape and Amazon.com. They were both 22.

And let us not forget: more than 160 years ago, it was a woman named Ada Byron Lovelace who is credited with being the world's first computer programmer. As a student of the renowned mathematician Charles Babbage – whose work on the analytical engine preceded the modern computer – Ada Lovelace greatly expanded his work, predicted the uses and limitations of computers, and provided many of the programs the Engine would use. Today, the computer language Ada is named after her. But when she started, she wasn't much older than all of you.

Now, it is your time. The next Bill Gates or Ada Lovelace could be sitting in front of me today. Which one of you will it be? I urge all of you: seize this age. Make it yours. Take what you have learned at this school and change the world. But at the same time, promise me this: that you will strive to create a world that is not just better off, but better; that you will judge success not by the number of networks you connect, but the number of people you connect; that you will endeavor not just to make better computers, but better communities. That is the special responsibility that Thomas Jefferson High School has left all of you with.

As a nation, we have used technology to create great economic growth – and that growth must continue in the years ahead. But economic growth alone cannot help heal the pain we saw in Columbine. It will not help stop the savagery we saw in Jasper. It will not, by itself, build bonds between neighbors who, every single day, seem to be living further and further away. Our technology today is different than anything that has ever come before. Unlike radio or television, the Internet can connect people to each other. It can bring us together. It can unite us or divide us, depending on how we use it. Today, we are at a crucial turning point. As Steve Case has said, “cyberspace is big enough to matter, but small enough to be shaped.” Let us work together to shape our new technology in a way that brings us all together to create a stronger America.

Along the way, your generation will wrestle with questions no other generation has had to face. Think about the ethical questions. The biological revolution we are living through today is unlocking the secrets of human life – but it is also opening a potential Pandora’s box of cloning for personal physical characteristics. Which way will we go? There are privacy issues: how do we protect sensitive medical information that is stored on-line? How will the nature of work be affected if computers can watch your every move? And then, there is the issue of equity – how do we make sure that nobody gets left behind? When steam technology was first developed, both the French and the British had it at the same time. The French used it to pump water into royal fountains. The British used it to power what would become the Industrial Revolution. How do we use our new technology in a way that helps us all?

There are no one-size-fits-all solutions to these questions, and even fewer absolutes. I’m reminded of the linguistics professor who told his class, “Remember, in English, a double negative forms a positive. In some languages though, such as Russian, a double negative is still a negative. But there is no language where a double positive forms a negative. At which point, a voice from the back of the room piped up: “Yeah . . . right.”

The only absolute is that all of you must be involved in the debates of your time. Your education and your training demand it. By involved, I mean committed – not just interested. The difference between the two is sort of the difference between the role of the chicken and the role of the pig at a bacon and egg breakfast. The chicken is involved. The pig is committed. Stay committed. Stay interested. Stay motivated. That means voting. That means volunteering. That means making service and citizenship an active part of your lives.

You’ve learned a lot about cyberspace here. The word “cyber” comes from the Greek word “kybernautis,” meaning helmsman, the one who steers the ship. That’s what we need you to be. Help us chart a course toward the new American horizon. Help us move into a new century with the same sense of wonder, the same sense of discovery, and the same sense of courage as the century we are leaving behind. Help us create an America that is not just better off, but better.

But start tomorrow. Tonight, enjoy your friends, enjoy your families, enjoy this celebration, and know how proud we are when we say: congratulations, class of 1999! Thank you.

Thank Dake
5

On this trip, in India and Bangladesh, I am witnessing American companies -- large and small -- signing about two dozen agreements -- creating or advancing projects worth some \$4 billion.

American companies bring experience and expertise to the table -- and world class goods and services.

Frank
→ Daley

3/23/00 8:45 p.m.

Orzulak

**PRESIDENT WILLIAM JEFFERSON CLINTON
REMARKS TO THE BUSINESS COMMUNITY
MUMBAI, INDIA
MARCH 24, 2000**

A week ago, I came to this country as the first American President to visit India in 22 years. I will leave here tomorrow quite certain that it will not be another 22 years before another President comes back.

It's appropriate that my trip here ends in this beautiful city. Mumbai has been called "a hybrid of Manhattan and Hollywood, only with attitude." What better place to celebrate a new beginning between east and west?

Forty-one years ago, Martin Luther King came to this country and said, "to other countries I may go as a tourist, but to India I come as a pilgrim." Before he discovered Gandhi, MLK believed that armed confrontation was the only path to progress. Gandhi's greatest gift to Martin Luther King and America wasn't nonviolence, it was that he forced MLK and others to think in a fundamentally new way.

It was in that same spirit that we came here this week as pilgrims to a new India, to bring a better understanding between our nations and the world.

When you think about how you'd like the world to look in 20 years -- in Africa, in Latin America, even the Middle East -- it's hard to imagine how we could build the future we want without a partnership between the world's two greatest democracies. I think we took a big step forward in laying the foundation for a respected, sustained partnership in a new century.

I am proud to say that America is India's largest trading partner and largest investor. Our two nations traded \$13 billion worth of goods last year. This week, American companies signed about two dozen agreements to create or advance projects worth another \$4 billion. We started a dialogue that will bring the commercial relationship between our nations even closer together.

We reaffirmed our common commitment to protecting the environment, and promoting the use of cleaner energy. We reached agreements on education and health issues that will help millions of Indians live safer, healthier lives. We had good discussions about ways we can use new technology to alleviate hunger and help lift people from poverty in both of our nations.

We didn't agree on every issue. But on those issues where we don't see eye to eye, we agreed to continue an open and honest dialogue. We recognized that both of our nations want a peaceful future. We understand that India has real security concerns living in a difficult neighborhood. The Prime Minister heard our concern that at a time when most nations are moving away from nuclear weapons, the world needs India to be leading in the same direction. We will continue to work toward that goal, always recognizing that it is better to approach the future with an open hand rather than a clenched fist.

Gandhi once said that "it is my conviction that India, numbering one-fifth of the human race, can be a great force of service to the whole of mankind." Today, when I look at the success of Indian-Americans, if we can permanently set aside old differences, South Asia will be the runaway success story of the 21st Century.

I leave here this week confident that both nations have a deeper wisdom and generosity of spirit toward one another. I believe if we continue to build on the good beginning we made here this week, the relationship between India and the United States can be one of the great friendships of the 21st Century.

Draft 3/18/00 2:00 pm
Sam Afridi

**PRESIDENT WILLIAM J. CLINTON
ADDRESS TO THE PEOPLE OF PAKISTAN
ISLAMABAD, PAKISTAN
March 25, 2000**

To the people of Pakistan: As-salam-alaikum. It is an honor to be the first President of the United States to visit your country in more than thirty years and the first-ever to address all of the people of Pakistan.

I have just concluded a series of meetings with President Tarar and General Musharraf. But the main reason I have come here is to speak with you, the people of Pakistan.

I am here as a great admirer of your land's rich history, of its centuries of civilization that stretch as long as the Indus River. I am here as one who profoundly respects the values of faith and family that are at the heart of the Pakistani character. I am here as one whose own nation has been greatly enriched by the talents of Americans of Pakistani descent.

But, most of all, I am here as a friend—a grateful friend who is proud of our long partnership—a concerned friend who cares deeply about the future course of your country—a committed friend who stands with the people of Pakistan as you seek to build the stable, prosperous, democratic nation of your founders dreams.

More than half a century ago, Mohammad Ali Jinnah, shared that vision as he addressed Pakistan's Constituent Assembly. It was just days before independence and this was his challenge: "If you work together," he said, "in a spirit that every one of you is first, second and last a citizen with equal rights, privileges and obligations, there will be no end to the progress you will make."

The Quaid-e-Azam ("kithe-ee-AH-zum") ended that landmark speech by reading a telegram he just received. The message expressed hope for success in "the great work you are about to undertake." The message was from the people of the United States.

For more than 50 years, our two nations have partnered together—in trade, in diplomacy, and in the struggle for freedom. Pakistan helped the United States open a dialogue with China. And, throughout the Cold War, Pakistan never wavered in the fight against communism. When that war showed up on your doorstep, the courage and confidence of the Pakistani people showed through yet again. As the Red Army marched ever closer, we stood shoulder-to-shoulder. Our partnership helped hasten the end of communism. Pakistan helped end the Cold War. This is your proud legacy—our proud legacy as partners.

Now we are in the dawn of a new century, and a new and changing world has come into view. Around the globe, a revolution is taking hold—a revolution that is tearing down barriers and building up new networks among nations and individuals.

A revolution that no longer favors shifting borders through bloodshed and war, but transcending borders through trade and cooperation. A revolution that recognizes open societies are the best hope for opening new possibilities—for realizing the potential of people and the destiny of nations.

Pakistan is capable of achieving so much in this new world. But obstacles stand in the way. They are daunting. They are difficult. The political situation—the economic situation—the high tension in this region. It is holding Pakistan back from its rightful place in the international community. It is undermining the daily lives of the people of Pakistan.

I don't have to tell you this. This is something you know. It is something you see. With this continued course, Pakistan will grow even more isolated, draining even more resources away from needs of the people, moving even closer to a war that no side can win.

But I have hope. I believe Pakistan can see its way through these troubles and build a future worthy of the vision of its founders—a stable, prosperous, democratic Pakistan secure in its borders, friendly with its neighbors, confident in its future. A Pakistan, as Jinnah said, “at peace within and at peace without.”

What is in the way of that vision? What are the obstacles to a better life for the people of Pakistan?

Clearly, the absence of democracy makes it harder—not easier—for the people of Pakistan to move ahead. More than ever before, genuine democracy is a cornerstone to a secure, stable, prosperous future. Those who march in a different direction are out of step with the world.

Democracy isn't easy and it isn't perfect. The leaders who wrote my own country's Constitution knew that well. They said that the mission of the United States would always be “to form a more perfect union”—in other words, we would never fully meet our ideals, but we had to keep trying to do better.

We are all disappointed that previous democratic regimes in Pakistan did not do better for its citizens. But one thing is certain: democracy cannot develop if it is uprooted before it has a chance to take hold. The answer to flawed democracy is not to end democracy. To deny the peoples right to shape their own future is not a path to progress. It is a road to nowhere.

No one can tell Pakistan how it should be ruled. That is for the people to decide—and that is the essence of democracy. Today, the people of Pakistan long for clean government—good government—democratic government. My country stands with you.

We stand with the people of Pakistan as you seek to build genuine democracy with the rule of law—where the press is free, where courts are independent, where officials are held accountable, where disputes are settled open and lawfully, and where people can express their point of view without having to fear the point of a gun.

This is vital to your future. That is why I told General Musharraf today that Pakistan must promptly restore democratic rule. This is vital to your future. [And there is no place for vengeance. Prime Minister Sharif should have a fair trial and whatever the outcome, Pakistan should not repeat the mistake of 1978 and execute an elected Prime Minister.]

Pakistan cannot fulfill its destiny without fighting the scourge of violence and extremism in our midst. Americans have suffered. Pakistanis have suffered. We can do something about this together and I join you in condemning those who would use religion as an excuse for violence.

Islam, above all, is a religion of peace. Tolerance is an article of faith. Terrorism is a travesty of faith. Those who plant bombs in bus stations, target embassies, or kill innocent civilians are not heroes. They are our common enemies. Acts of terror have no place in this country, in this region, in this world. We must work against those who inflict terror—or those who provide them sanctuary.

Pakistan is making tremendous progress fighting narcotics. We can do the same in fighting the deadly terror. The narcotics trade, after all, has clearly shown that no nation can be a transit point for drugs and remain immune. No nation can be a transit point for terror and remain immune either. What are the implications to a country's stability if people know nothing but killing, bloodshed, and violence? What kind of Pakistan will they want to build? We have a common interest in taking on those who would hold our future hostage.

I believe we also have a common interest in working to resolve our differences on nuclear proliferation. My message in Pakistan is no different than what I said in India. We in the United States are on the path to reducing our nuclear weapons arsenal by more than half. Our ultimate goal is to eliminate these weapons from the face of the earth. And we don't believe that goal is advanced if any country in any region is moving in the opposite direction.

Through our own experience, we learned that deterrence alone cannot prevent accident and miscalculation. In a nuclear standoff, nothing is more dangerous than believing there is no danger. Both Pakistan and the United States have reaffirmed our commitment to forego nuclear testing. But in our own self-interest, we can do more. That is why I encouraged General Musharraf to take the right steps now to prevent escalation, avoid miscalculation, and reduce the risk of a nuclear war.

Pakistan and India have legitimate security concerns. But the best way to allay those concerns is through dialogue. In India, I spoke of the imperative of easing the bitterness of those innocents caught in the crossfire. Pakistan also must do its share to create conditions to allow dialogue to move forward. Ultimately, the only way to settle the differences that we see manifested along the line of control is by opening the lines of communication.

I care deeply about this issue and the American people don't want to see tensions rise. So we will be a force for peace. But we cannot force peace. We cannot impose it.

I am not here to mediate the dispute in Kashmir--only you can do it—only India can do it--through dialogue.

Last year, the world watched with hope and optimism as the leaders of Pakistan and India met in Lahore on the road to better relations. This is the path to peace for Pakistan and India. I will do all I can to help remind others of the promise of Lahore and to continue the process of Lahore.

Yes, this is a troubled time. But I believe we can draw from the words of one of Pakistan's many gifts to the world—the great poet Mohammad Iqbal. "In the midst of today's upheaval," he wrote, "give us a vision of tomorrow."

I believe that Pakistan and South Asia can be the great success story of next 50 years. It is in your hands to write. But I know enough about the ingenuity and the enterprise and the heart of the Pakistani people to know that it is possible.

Pakistan can fulfill its destiny—as a beacon of democracy in the Moslem world, an engine of growth, a model of tolerance, an anchor of stability. Pakistan can have a future worthy of the dreams of the Quaid-e-Azam.

But we cannot build this vision for tomorrow without making the hard choices for peace today. And on this road, the United States walks with you. To our continued friendship—to peace—to Pakistan--zindabad.

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THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release

March 1, 2000

REMARKS BY THE PRESIDENT
TO UUNET AND MCI WORLDCOM EMPLOYEESUUNet Technologies
Ashburn, Virginia

3:15 P.M. EST

THE PRESIDENT: Thank you very much, Melissa. To Bernie and John and Mark, thank you for welcoming me and Ambassador Barshefsky and our whole team here. I leaned over to John when I looked at all of you out here and I said, now, I can't believe all these people are off work now, what terrible thing can happen? (Laughter.) What could I be responsible for doing to the Internet today? (Laughter.)

I am profoundly honored to be here, and I thank all of you for allowing me to come. I came here to talk about your future, but because this is the only opportunity I'll have today to speak, through you and the media to the American people, I have to make a brief comment about one other issue.

Today there was another terrible shooting in the Wilkesburg community in Allegheny County in Western Pennsylvania. We don't know all the facts yet, but it was a bad situation. Yesterday, of course, that tragedy occurred in Michigan, where a very young child was killed by another very young child. I just talked to the superintendent of schools there, right before I came out.

I want to say two things about it to all of you. First of all, these are personal tragedies that, because of instantaneous media coverage, we all know and feel. And we owe the families of the victims and the communities our prayers and our best wishes.

Secondly, as citizens, these incidents, particularly the one yesterday in Michigan, call on us to recognize the fact that we simply haven't done everything we can do to keep guns away from criminals and children. And so today, I have to say again to Congress: you have had legislation now that would require child safety locks, would close the gun show loophole, would take other steps to keep guns out of the wrong hands for well over six months. You're supposed to take a recess next week. Before you take the recess, please send me this legislation. It will help keep America safer. (Applause.) Thank you.

Now, I want to talk to you today about your future, which is unfolding at a breathtaking rate. We were talking, before we came out, I said, tell me a little about the growth. So John said, well, five years ago we had 40 employees, today we have 8,000. Bernie said, five years ago, we had 2,000 employees, today we have 88,000. You're getting along reasonably well. (Laughter.)

I have been going around the country saying to my fellow Americans everywhere that in a new economy in which we have now in the last seven years 21 million new jobs, the lowest unemployment and welfare rolls in 30 years, the lowest poverty rates in 20 years, the lowest female

unemployment rate in 40 years, the lowest African American and Hispanic unemployment rates ever recorded, the highest homeownership on record and the longest economic expansion in our history, the world is changing so fast, if you want to keep doing well, you have to keep trying to do better; that it is very important that all of us understand that we'll never get anywhere by standing still -- although, given the pace at which you're growing, I'm glad I'm giving you the chance to stand still for a little bit today. (Laughter.)

This shift in our economy is changing the landscape of our country, both symbolically and literally. I first saw the landscape of Northern Virginia as a freshman in college, 36 years ago. But it looks different than it did when I became President, seven years ago. Everywhere you look, there's a brand-new facility. This place is truly amazing. And beneath all the booming business parks and green pastures, there are countless miles of cable, conducting more than over half the Internet traffic in the entire world.

There are more high-tech firms in Northern Virginia today than there were farms in 1970, when the region led the state in the production of milk. (Laughter.) Here in Loudoun County, there are more high-tech workers than there were residents in 1980. It has been an amazing thing. Workers like you and firms like UUNet are the new engines driving our economy. You represent about 8 percent of our employment, but 30 percent of our growth over the last decade, something you can be very proud of.

The new technologies that you use are also finding their ways into every sector of our economy, making companies of all kinds more competitive. UUNet provides a lot more than Internet service. Every day you show us something about the power of ideas, the power of imagination, the power of enterprise; values that are at the core of America's character and at the bottom of this booming new globalized economy, in a marketplace that is much, much wider and fuller of possibility than any of us could have imagined when this company sold its first commercial connection in 1988.

In just 12 years you've extended your reach to 100 countries, expanding your global network by more than 1,000 percent a year. The global network is a big part of your future, and that's what I want to talk about today, and what government's role in that is.

People ask me all the time, well, this is the highest percentage of growth in jobs in the private sector, and the smallest percentage in the government of any recovery we've ever had, since we could measure such things. As a matter of fact, since I've been President, we've reduced the size of government to its smallest point in 40 years, since 1960.

So people say, well, what is your job, Mr. President? What is the Congress's job? I think our job is to create the conditions and provide the tools for you to do your job. What does that mean? That means we ought to invest in education and training and new technologies. There's a lot of research that can't efficiently and economically be done in the private sector.

The Internet originally grew out of government-funded research, which, as I was reminded today by your leaders, is one of the reasons there are so many high-tech firms in Northern Virginia. Second, we've got to give you an overall healthy economy, which is why we had to get rid of the deficits and start running surpluses, and why we ought to pay this country out of debt, keep interest rates down and make capital available for other companies to grow as well.

The third thing we ought to do is to promote genuine competition.

That was behind the gentle nudge that Bernie gave me about the Baby Bell comment. (Laughter.) He was -- actually, it was a little inside joke, but he was referring, in a supportive way, to the fact that the Vice President and I fought hard in the Telecommunications Act, when we rewrote the telecommunications bill for a pro-competitive position. And because we fought hard, we got it, and you not only have companies like yours that have swollen in size in the last five years, there are hundreds and hundreds of companies that didn't even exist five years ago that are able to make it today because the United States took a pro-competitive position in the Telecommunications Act. Those are our jobs. That's what we're supposed to do. (Applause.)

But finally, we are a country with 22 percent of the world's income and 4 percent of the world's population. And you don't have to be Einstein or even particularly good with a computer to know that if you've got 22 percent of the world's income and four percent of the world's population and you would like to keep doing better, you have to sell something to somebody somewhere else. (Laughter.)

And that in a world that is increasingly globalized, you're better off when they're better off. Not good for you that African countries which are capable of growing at 7, 8, 10 percent a year are so burdened by debt that they can't educate their children or provide health care to their people. It's not good for you if -- because we refuse to open our markets to some countries in the Caribbean or Latin America, they don't open their markets to ours and they grow more slowly and their people remain poorer. You'd be better off if they get richer and more of them will be on the Internet.

We live in a time when really to doing the morally right thing happens to be good economics. But in order to do it, again I would say, you will do a lot of it -- I've seen enterprising kids in poor African villages logging onto the Internet and finally seeing a map that's up to date and learning geography and doing all kinds of things. People will take care of this if we establish the right conditions and provide the tools.

One of the things that we have worked hard on is to expand trade. Under Ambassador Barshefsky and her predecessor, we completed over 270 trade agreements. But in many ways, perhaps the most important of all is the agreement that -- or the decision Congress will have to make this year and in the next few months on whether to let China come into the World Trade Organization by giving them permanent, normal trading relation status with the United States.

If you've been following this debate at all, you know there is a lot of controversy about this in the Congress. And I won't go through all the arguments now, but let me just tell you, I can say this from my heart, you know, I'm not running for anything this year. (Laughter.) And most days it's okay with me, but I'm not -- most days. (Applause.)

But I care a lot about what this country will be like when the young people here in this audience are my age, when your children are your age. This is a profoundly important issue. It is, in the short term, the kind of decision that every country would wish for. Once in a generation you get a chance to open a market with over a billion consumers -- the biggest potential market in the world.

Let me explain, first of all, what this agreement does. In return for China's entry as a full partner in the World Trade Organization, the United States would gain unprecedented access to China's markets. Today, with the Chinese, we have our second-biggest trade deficit -- tens of billions of dollars, because our markets are open to their products, and they should be, because we'll be better off if they do

better.

But their markets are not very open to our products and services. Under this agreement, Chinese tariffs in every sector, from telecommunications to automobiles to agriculture, will fall by half or more in five years. For the first time, our companies will be able to sell and distribute products in China made by workers here at home without transferring technology in manufacturing -- never happened before. For the first time, China will agree to play by the same open trading rules we do. Never happened before.

Meanwhile, we'll get two tough, new safeguards against surges of imports which would threaten to throw a lot of Americans out of work in a short time under unfair trade practices. So these are the kinds of changes any president, regardless of party, would welcome -- because presidents, regardless of party, have worked to bring about these changes for more than 30 years now.

This is a good deal for American workers, for American farmers, for American business. It's a good deal for America. But the only way we can get this agreement is for Congress to give China permanent, normal trading relations. This is one of the most important votes Congress will pass in this year and for many years to come. Next month, our Commerce Secretary, Bill Daley, and our Agriculture Secretary, Dan Glickman, are going on missions to China with dozens of members of Congress to meet with people in government and business and religious leaders who are interested in change in China.

It's very interesting to me that the more people go to China and spend time there, no matter what they do for a living or what their perspective is, the more likely they are to favor our bringing China into the world system of rule-based trade. Because this is about economics and more than economics -- and I want to say more about that in a minute.

But just think about the economics of high-tech companies. Today, China's tariffs on information technology products average 13 percent. When China joins the WTO, those tariffs will start to fall and be eliminated by 2005. China will open its Internet and its telecom markets to American investment and services for the first time. That's a huge deal.

Now, the magnitude of all this almost defies measurement. The number of Chinese Internet users -- let's just take that -- quadrupled in the last year alone, from 2 million to 9 million. This year the number will exceed 20 million. And you know what the internal dynamics of this technology are, you know how much your company has grown. Now, project that rate of growth onto a country that has over 1.2 billion people. And keep in mind, the United States is not being asked to do anything to get this agreement, except to treat them like a normal trading partner on a permanent basis and bring them into the WTO.

So what are we going to do? China doesn't have the information infrastructure to support 500 million Internet users yet. But UUNet already has a presence in Hong Kong. You could help them to build it. (Applause.)

Let's look at what happens if we didn't do it. Today we've got a huge advantage in high-tech trade internationally. What would happen if we didn't take advantage of this? China will grow anyway and someone else -- not you -- will reap the benefits of it. So if we turn our backs on this opportunity, we will be unilaterally disarming in perhaps the most vital area of our future economic growth.

And let me say, finally, this is about more than money. I saw a lot of you nodding when I said it was good morally and good economics to help lift the burden of debt from the poorest African countries if they're working to try to do better. I saw a lot of you nodding when I said it was the right thing to do to buy more from the Caribbean and Latin America countries if they were doing the right thing in opening their markets to us.

We have a decision to make here. The people who don't do this by and large think that China should not be taken into the World Trade Organization because we don't agree with all their political decisions. We don't like it when they repress human rights or political rights or religious expression. We don't agree with them that we should take little or no account of environmental impacts of economic decisions; or that we shouldn't take strong steps to eliminate child labor and slave labor and things like that. We have differences.

But think of this. You know how much the Internet has changed America. And we were already an open society. I can look out in this crowd and tell that many of you come from some place else. You know how much the Internet is changing where you came from and how much it could change if it were there. The same thing is true in China.

Everything I have learned about human nature in my life, plus everything I have learned about China as President, convinces me that we're a lot better off bringing them into the family of nations into this common endeavor than shutting them out. Do we know what China will be like in 20 years? Of course we don't. We can't control what they do; all we can control is what we do. But here again, I think our values will be advanced, along with our economic interests, if we give people a chance to be good partners. If you don't give them a chance, it's almost certain that they will react in a negative way.

So I ask all of you to think about this, because normally, Americans don't think about foreign policy much, but you know that with every passing day in a globalized economy, there is no longer a clear, bright line between an issue which is a domestic political issue and an issue which is a foreign policy issue.

With every passing day, these issues grow closer together. Do I like it when people's religious liberty is oppressed in China? No, I don't. But it's very interesting -- most of the evangelicals I know who have missions in China want China in the WTO because they know that that will make it more likely that there will be more freedom of expression, more contact with the outside world, and a bigger stake in working with other countries.

This is about money, yes; but it's about more than money. It's about whether we can create a world where there's the kind of harmony across race and ethnicity and religion that there must be in this work place that I can see just by looking around the room here. Wouldn't you like it if the world worked the way you do here? (Applause.) How could it be bad if companies like UUNet are able to make the tools of communications cheaper and better and more widely available to more Chinese people? It has to be good.

So I will say to you: I don't agree with everything the Chinese do. I'm sure they don't agree with everything I do. (Laughter.) And far be it for me to equate the two disagreements. (Laughter and applause.) I don't believe -- in all seriousness, I don't believe it's right to crack down on people for their religious views or their political expression or because they want to be in an association like the Falun Gong. I don't think that's right. But I don't believe that we will have more influence on China by giving them the back of our hand

instead of giving them a chance to build a different future.

That's what this is about. And I want every one of you to think about this. Look, economically, this is a no-brainer. It's in your interest. It will make this company a lot more jobs. But I don't ask you as citizens to check your values at the door. Every one of us believes in some things that money can't buy.

But I'm telling you -- you just think about what you have learned in your life about human nature. The leaders of China are not foolish people, they're intelligent people. They know if they open these markets, they know if you go in there and everybody gets connected to the Internet that change is coming more rapidly in ways that you cannot control, and people will be able to define their future independent of the government's ability to control it more than ever before -- whether you're talking about religion or politics or personal life choices or anything else. They know that. And they have made this decision, and we cannot let our disagreements with government policy get in the way of our interest in a long-term partnership with the most populous country on Earth. So, again, I say, what is good economics is also consistent with our values.

The late Chief Justice Earl Warren once said that, "Liberty is the most contagious force in the world." I believe the Internet inevitably is an instrument of human liberty, and it will be in China as well if we continue to reach out to people. (Applause.)

So I'm asking you to do something if you agree with this. I want you to tell the members of Congress without regard to party that represent your state -- if you live here, if you live in Maryland, you live in West Virginia -- I want you to ask them to support this. And I want you to tell them, I want you to tell them that you will stay with them on this decision if they do, because this is very, very important.

You know, I'm grateful that since I've been President, America has done well. I'm grateful for the chance I've had to make a contribution to it. But, frankly, I'm much more interested in whether America continues to do well long after my tenure in office. And, again, I say to you, if you know in your business that if you want to keep doing well, you always have to keep trying to do better; and looking at the future, anticipating the changes, imagining how you want it to be.

I can't imagine a world that I want for my child and my grandchildren that doesn't include partnerships that are constructive with the big countries of the world which promote human liberty, as well as economic progress. That's what this whole thing is about.

So I say to you, I came here today because you are the symbol of 21st century America. You are the embodiment of what I want for the future. (Applause.) And because of what you do for a living every day, because of how you see and feel the way the world is changing and how you see what it can become, you are in a position that most of your fellow Americans are not in to understand the importance of this. So, again, I say to you: you're doing great. I want you to do better. And I think we can do better and do good, but we have to start this year by making sure that we don't turn away from this profoundly important opportunity.

Thank you very much. (Applause.)

END

3:43 P.M. EST

KEY HIGH TECH DATA

- There are approximately 300,000 IT workers in India who will generate \$8 billion in revenues during 2000. Of this, 80% of this (\$6.5 billion) will be exported. The IT sector contributes more to the income of the country than any other sector. In India, IT workers generate \$27,000 per head in revenue.
- India graduates 65,000 IT engineers from its Universities every year; plus those from its technical schools and institutes. There is a question of overall quality of its graduates. The best migrate to Silicon Valley.
- The India IT sector has been growing at 50 percent per year over the last 5 years.
- 40% of all IT workers in Silicon Valley are Indian and they collectively earn \$60 billion per year.
- There are the same number of Indian IT workers working in Silicon Valley as there are working in India. However, the efficiencies are much greater in Silicon Valley where the average engineer generates more than \$200,000 per head in revenues.
- 15 percent of all the start-ups in Silicon Valley are Indian owned.
- In the future Silicon Valley Indians (SVI's) will drive the growth in India's IT sector. SVI's will use their small company model and apply it to India. American based Indians are funneling \$200,000 per year into Southern India's high-tech boom.
- The transnational flow of skills, capital, and information between the United States and India will continue to increase in the future.
- Venture capital regulations in India need to change for its IT sector to grow and prosper. Approximately \$700 million in venture capital will enter India this year.
- India's states are beginning to compete for companies by improving infrastructure, particularly in the Southern States of Andhar Pradesh, Karnataka, and Tamil Nadu. For example, Chandrababu Naidu recently convinced GE to shift a switching center from Karnataka to Adhra Pradesh. his state that will generate 5,000 jobs.

Dr. Rafiq Dossani, Stanford University

India

Information Technology

Summary

The Indian market for information technology (IT) products and services is poised to expand over the next few years. Both the government and the private sector have resorted to computerization, and a surge of interest in the Internet and electronic commerce is fueling market growth. To support the potential new growth of the industry, the Government of India (GOI), state governments, and trade associations plan to launch a series of new policy initiatives to boost India's IT market.

Market Size

The Indian IT market (computer equipment and software) was expected to reach \$3.2 billion in 1998, according to industry sources. The International Data Corporation estimates that the hardware segment was about \$1.6 billion, with the bulk of the market comprised of personal computers (PCs) as opposed to large scale and multiuser systems. There were approximately 800,000 PCs in use in 1998, up from 550,000 in 1997. With India's huge population of 1 billion people, the PC ownership rate is only 1.8 PCs per thousand persons. With the implementation of the Internet policy and other industry incentives, Internet subscribers are expected to grow from the current 150,000 to more than 2 million users by 2001. The Indian software market is worth \$1.6 billion, according to the National Association of Software Services Companies (NASSCOM). During 1998, systems software rose 105 percent over the previous year; packaged software and application software sales increased 95 percent and 90 percent, respectively.

Statistical Data (\$ millions)

Software	1998	1999	2000
Local production	900	1,170	1,460
Imports	3,300	4,290	5,360
Exports	2,600	3,380	4,225
Total market	1,600	2,080	2,595
Imports from U.S.	1,485	1,930	2,412
	(93%)	(93%)	(93%)

Source: Country Commercial Guide - Best Prospects (Dataquest, NASSCOM)

Competitive Environment

Most Indian companies prefer to use imported computer equipment despite high product prices. The Indian market is served in two ways. One is through a business collaboration with branded products of multinationals that provide a full range of equipment. In this case very little manufacturing is involved and these products are sold primarily through distributor channels and authorized resellers. The other is through joint ventures aimed towards the establishment of local

manufacturing bases with technical support from foreign companies. U.S. companies dominate the computer hardware segments through both arrangements and manufacture for both the domestic and export markets. The two largest computer manufacturers in India are strategic alliances – Hewlett Packard (U.S.) joined forces with Hindustan Computer Ltd. and Acer (Taiwan) is teamed with Wipro.

Other multinational companies with a presence in the Indian PC market include: Compaq, IBM, AST, Dell, NEC, Toshiba, Olivetti, and AT&T. Digital Equipment Corporation, Sun Microsystems, Hewlett Packard, IBM, Fujitsu and Tandem compete in the high-end computer segment. Multinational corporations in the software segment include Microsoft, Lotus, Novell, Oracle, SAP, and Baan,

Market Access

The GOI's Department of Electronics (DOE) regulates the import of computers and software and is involved in the development of computer policy. Import duties have been rationalized in the past years and are expected to decline further to enable the Indian industry to compete on a global basis.

The GOI has proposed to liberalize its technology import policy further. The government will allow technology imports for projects assessed and funded by financial institutions and those of central and state Public Sector Undertakings (PSU) through an automatic route monitored by the Reserve Bank of India (RBI).

Sector Policy Issues

On March 26, 1997, India officially joined the Information Technology Agreement (ITA) as an original signatory. India has committed itself to eliminating tariffs on all products covered by the ITA by 2005. Duties on IT capital equipment will be eliminated by 2000, and duties on computer and telecommunications equipment will be eliminated by 2005.

The GOI budget for 1997-1998 eliminated duties on both systems and application software. However, despite the progress mentioned above, duties on most computer equipment currently remain very high. The GOI budget for 2000 reduced the effective tariff on computers from 20 percent to 15 percent, but with additional surcharges and excise taxes the net payable tariff rate is 32 percent (15 percent duty, 15 percent excise tax, and 2 percent surcharge).

Best Prospects

Sector Rank-1 Computer Software

Realizing that the software sector is a significant foreign exchange earner, the GOI has identified it as a high growth area and has proposed several incentives for the sector.

- A 5 to 10 year tax holiday for units in software technology parks

- 100 percent depreciation over two years on all IT products
- Software and IT to be treated as a priority sector by banks for five years
- Blanket approval for Indian IT companies for overseas acquisitions from export earnings
- Zero customs duty on all IT products by the year 2002
- Broaden the definition for software to include the entire range of IT software as per WTO-ITA requirements
- Amend the Copyright Act and establish a rigid enforcement directorate

Withdrawal/Redaction Marker

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DOCUMENT NO. AND TYPE	SUBJECT/TITLE	DATE	RESTRICTION
001. memo	To President Clinton from Samuel Berger, Karen Tramontano, and Stephanie Streett. Subject: Communications plan for your trip to South Asia (9 pages)	n.d.	P5

COLLECTION:

Clinton Presidential Records
National Security Council
Speechwriting (Paul Orzulak)
OA/Box Number: 4022

FOLDER TITLE:

Hi-Tech - [India] [1]

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RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

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P5 Release would disclose confidential advice between the President and his advisors, or between such advisors [(a)(5) of the PRA]
P6 Release would constitute a clearly unwarranted invasion of personal privacy [(a)(6) of the PRA]

b(1) National security classified information [(b)(1) of the FOIA]
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b(4) Release would disclose trade secrets or confidential or financial information [(b)(4) of the FOIA]
b(6) Release would constitute a clearly unwarranted invasion of personal privacy [(b)(6) of the FOIA]
b(7) Release would disclose information compiled for law enforcement purposes [(b)(7) of the FOIA]
b(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]
b(9) Release would disclose geological or geophysical information concerning wells [(b)(9) of the FOIA]

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PRM. Personal record misfile defined in accordance with 44 U.S.C. 2201(3).
RR. Document will be reviewed upon request.



Thomas A. Kalil

03/16/2000 05:49:53 PM



Record Type: Record

To: Paul K. Orzulak/NSC/EOP@EOP

cc:

Subject: Internet stats

1 billion mobile Internet access devices will be in use around the world by 2003. (Source: Yankee Group)

Number of Internet users in India could increase from 2.6 million to 30 million by 2004 (Source: Credit Lyonnais Securities Asia)

275 million people online as of February 2000.

THE WHITE HOUSE

Office of the Press Secretary
(Philadelphia, Pennsylvania)

For Immediate Release

February 24, 2000

REMARKS BY THE PRESIDENT
AT GRANOFF FORUM

University of Pennsylvania
Philadelphia, Pennsylvania

3:55 P.M. EST

THE PRESIDENT: Thank you so much. Dr. Rodin, thank you for bringing me here to Penn and this magnificent hall. Mr. Mayor, thank you for all the kind things you said. I've enjoyed working with you and with Mayor Rendell for Philadelphia. I don't think any American can understand our history, our present or our future without knowing something about Philadelphia.

And I want to thank the members of Congress who have joined us today -- Representatives Chaka Fattah, Representative Joe Hoeffel, Representative Brady, thank you all for being here. I want to thank my Economic Advisor, Gene Sperling, and Karen Trumontano for coming from the White House, because they had a lot to do with whatever success we have enjoyed. And I want to thank Michael Granoff for giving me a chance to attend one more inaugural than I'm entitled to under the Constitution. (Laughter.)

They actually promised me a banquet with a Philadelphia cheese cake -- I don't know -- cheesesteak -- I mean, I don't know if I got it yet. (Laughter.) If you knew how many cheesesteaks I have consumed since I became a candidate here -- (laughter) -- I think I could get a special line of credit for the revival of the city's economy just as a consumer.

It's hard for me to believe that it was almost eight years ago when I came here then as a candidate for President. It was a very memorable day for me -- I had just come off an entire week without saying a word publicly, because I had lost my voice and my doctor ordered me to stop speaking. Now, that's torture for any politician. Doubly worse if you're in a campaign you could still lose, and awful if you think you might have something to say.

In those eight years, a lot of wonderful things have happened to me. I look out in this audience, and I see so many people -- young, old and in-between -- that I have gotten to know in the years since then. Judith talked about how different it is now from the time when I was elected governor -- I was 32, in 1978. It's also quite a bit different than it was in 1992.

When I took the oath of office as President, there were 50 sites on the Worldwide Web. There are millions and millions now. At that time, we had high unemployment, deepening social problems, political gridlock, diminished hope. The Philadelphia Enquirer had just run a series which became a best-selling book, entitled, "America: What Went Wrong." It was, unbelievably, a question that was on virtually everyone's lips just eight years ago.

I had some pretty basic ideas that all boiled down to my conviction that there was nothing wrong with America that couldn't be fixed by what's right with this country, and that the job of government was to create the conditions and give people the tools to make the most of their own God-given abilities, their ideas and their efforts.

When I came to Penn, I came here to outline a plan that I believed would unleash the pent-up potential of the private sector to build a new economy for all Americans, one that would literally breathe new life into the American Dream. One of the things that I focused on then was the importance of advancements and investments in science and technology.

Here at Penn before -- even then, it was before the first graphical Web browser had been created -- I said we ought to have a national strategy to create a national information network to build on the promise of the Internet, to link every home, every lab, every classroom, every business in America. Well, today, thanks to the hard work of the American people and the vision of American entrepreneurs, we are seizing the potential of the Internet and other technologies. We have ushered in an economic transformation as profound as that of the Industrial Revolution, creating a high-performance economy powered by technology, driven by ideas, rewarding the values that are literally at the core of the American character: innovation, flexibility and enterprise.

And, seven years and some-odd months later -- one month, I guess -- we have almost 21 million new jobs, the lowest unemployment rate in 30 years; the lowest African American and Hispanic unemployment rates ever recorded; the lowest poverty rate in 20 years; the lowest welfare rolls in 30 years; the highest home ownership on record; the longest economic expansion in our history.

Today, I want to use this inaugural lecture to talk fairly briefly about how we got here and where we go from here; to focus on how powerful new technologies are energizing every sector of our economy; and how to keep this expansion going, and to bring its benefits to people and places still far, far from the American mainstream.

For me, today's forum is a prelude to a major economic conference I intend to convene at the White House on April the 5th, to deal with the big, cutting-edge economic issues still before us, with some of the nation's top economists, CEOs and other experts. I want to ask them to identify ways we can build on America's strengths, and deal with our continuing weaknesses, to take what President Theodore Roosevelt called the "long look ahead" for America over the next several decades.

But first, how did we get here? There are several reasons for this long economic expansion. I want to focus in detail on two, and then I will mention the others as well. First, fiscal policy was important. In an era where worldwide capital markets dominate the ability to get money and the price people pay for money, nations can no longer purchase prosperity on the cheap by running continual big deficits and piling up debts.

By 1993, we had quadrupled the debt of America in the previous 12 years. It had given us enormous interest rates, a stagnant economy, a deep recession, and then a jobless recovery. One economics expert characterized it as a triple dip economy.

I think it's important to understand why that happened. In 1981, we had a difficult economy, and there was an argument for some

economic stimulation, which traditionally, going all the way back, certainly to President Roosevelt from the time of the Depression, had entailed either tax cuts or public spending, or a combination of both, but everyone understood that in order for that to work when the economy started going again, you had to cut the deficit; and we just never did it. I think, partly, because we had this dominant idea that somehow, government was the enemy in America that it would always mess up a two-car parade, that there was no such thing as taxes that were too low, and that the deficit really didn't matter. But plainly, it did.

I never will forget the first day before I was even sworn-in that my then-designed for Secretary of the Treasury, Senator Lloyd Bentsen, the Chairman of the Finance Committee, announced our economic plan. Just by announcing it, the bond market shot up, interest rates shot down, and the economy began to take off.

Then, as has already been said, we basically took two big bites out of this apple. We passed a plan designed to cut the deficit by \$500 billion -- it actually did almost double that -- it passed by one vote in the House, one vote in the Senate. The Vice President cast the tie-breaking vote in the Senate -- as he says, whenever he votes, we win. (Laughter.) And I signed it in August of '93.

It was a painful vote. A lot of members of Congress were defeated for casting the vote, including Marjorie Margolies Mezvinsky, who's here today. She gave up her seat in Congress to turn the American economy around. And the people who did it deserve the thanks of the American people, because it made all the difference in the world. (Applause.) And anybody who says that it didn't make any difference doesn't remember what interest rates were, or what the level of investment was before it occurred.

Then in 1997 we took another bite at the apple, and we passed the Balanced Budget Act. This time, it passed with a majority of both parties in both houses, big majorities. And we had a national consensus for fiscal responsibility for the first time in 16 years.

Now we've enjoyed the first back-to-back budget surpluses in 42 years. We will pay about \$300 billion off our national debt by the end of this year. We've actually been buying in some of the debt early, for the first time, as far as I know, in the history of the Republic.

Now, why is this a good thing? Because the deficit reduction set in motion a virtuous cycle -- reducing interest rates, freeing up an enormous pool of capital for private sector investment. It enabled people to borrow money to invest in new businesses, in new technologies. It enabled consumers to borrow money at lower cost for homes, for car loans, for college loans. A study I received a few months ago estimated that the average American family had saved, now, as a result of lower interest rates, about \$2,000 a year on home mortgages, and \$200 a year on car payments and college loan payments, because of the lower interest rates that were the direct result of getting rid of the deficit.

Therefore, I would argue that whether you are a Republican or a Democrat, whether you consider yourself a liberal or a conservative, you should be for this. If you're a conservative, the case is self-evident; if you're a liberal, you ought to be for it because it helps poor people as well as wealthy people, and it gives the government money to invest in education and health care and social projects without harming the economy.

America needs a national consensus for a solid economic policy that responds to the realities of the global economy, and I believe we have it now.

Now, I think it's also fair to say that almost nobody thought it would work as well as it did. And that's the second question. Okay, everybody -- I thought it would work, but I remember when I was sitting around the table in Little Rock in December of '92 with the Democratic economists -- not the Republicans -- and I said, okay, how low can we get unemployment without inflation. And the consensus was, somewhere between, oh, 5.5 and 6 percent. You get below that and you're going to have inflation, and the Fed will have to raise interest rates, and then it will slow the thing down.

My instinct was we could do better than that. But I can tell you, nobody thought we could have 4 percent unemployment on a sustained basis without inflation. How did that happen? Because of a dramatic increase in productivity, by American businesses and American workers. Productivity over the last four years has grown at the rate of 2.8 percent a year, about twice the rate we saw in the entire decades of the '70s and the '80s.

Why did that happen? That's the second thing I want to look at. Overwhelmingly, it was the role of technology investments, especially in information technology, that boosted this productivity. Today, information technology industries and firms alone constitute less than 10 percent of our employment, but have contributed about a third of our economic growth over the last several years, generating jobs, parenthetically, that pay about 80 percent more than average wages in America.

And just as Henry Ford's mass-produced motorcars, and the assembly line itself, had broad spillover effects on the productivity of the American economy, these new information technologies are doing the same thing, rifling through every sector of the economy and increasing the power of American workers and American firms to produce wealth, and to broadly share it.

This is a little appreciated fact, I think, except in general, and almost nobody has been able to properly measure it, which is why everybody underestimated both the length and the depth of this economic recovery. There are very few models which can capture it. But if you just look at the -- just take a traditional example that magnifies, or illustrates the spillover effect.

One of the biggest problems that businesses have is managing inventories. Let's say, if a manufacturer predicts that a thousand units of his products will be needed in the month of July this year, and then July rolls around and demand turns out to be 10 percent less than the manufacturer thought it was going to be, 10 years ago when that happened, the manufacturer might not have recognized the drop in demand until it was too late and even larger inventories in parts and finished products had piled up in warehouses. And then, because the inventories were so large, the manufacturer might have to cut back on orders, let's say, as much as 20 percent, which would often lead to significant job layoffs and an increase in unemployment.

Today, information technologies allow industries to recognize instantaneously changes in demand, and to manage their inventories much more quickly. A lot of the biggest retailers in America today literally have daily reports on every single product they have in every single store, and manage all their inventories accordingly. That means that they can plan in a stable way to maintain the work force. And they also don't get behind when they have the opportunity to sell more of something.

None of this would be possible if it weren't for information

technology, even though its impact may be felt in the most traditional of business activities in America. It's the sort of thing that you see in every aspect of the American economy.

Information technology is also having a profound impact on the speed with which new products are being brought to market. Detroit's automakers, for example, use supercomputers and advanced networks to reduce the time it takes to develop new cars from 60 months to 30 months or less.

I grew up in the automobile business, and one of the biggest kicks I've gotten as President is going to the Detroit Auto Show. I only regret I didn't get to go every year. But it is fascinating to watch the progression of these new models and to see how much more quickly they're coming on line -- and to also see the intersection of the information technology revolution with the revolution in material science, something that a lot of people on the Penn faculty have also been involved with over the last 10 or 15 years.

Pharmaceutical companies are using supercomputers to simulate literally millions and millions of possible candidates for new drugs, cutting down development time for new anti-cancer drugs, for example, by several years. And, of course, information technology is creating an infinite number of possibilities for electronic commerce for traditional businesses.

Just for example, this past holiday season I bought a couple of Christmas gifts online from members of the Lakota tribe at the Pine Ridge reservation in South Dakota, a place that still has an unemployment rate of 70 percent, in a country with an unemployment rate of 4 percent. One of the reasons that their unemployment rate's so high is that they don't want to leave the lands of their ancestors, which are so physically distant from markets and consumers. But information technology can change all that, and in time, I'm convinced, can give us the chance to build a truly national economy, as we build a truly global economy.

Business-to-business e-commerce is growing even faster than retail e-commerce. In three years, it may reach a staggering \$1.3 trillion in the United States alone. Companies moving their operations online have found enormous savings. During a -- listen to this -- during a single hour of bidding in a recent business-to-business auction, the price of printed circuit boards was bid down by 42 percent, saving the ultimate buyer \$6.4 million in one bid.

When the Vice President and I first came into office, it was clear to both of us that technology would be an important part of our productivity growth. And we asked ourselves, what should the government be doing? What is the government's role in sharpening our high-tech edge, to develop and disseminate new technologies?

Well, first, we negotiated with our trading partners an historic information technology agreement, which will eliminate tariffs on \$600 billion worth of semicomputers, computers, telecommunications equipment, and other high-tech products. We fought for and achieved the first comprehensive telecommunications reform in 60 years. We transferred large blocks of the airwaves from government to the private sector, which has spawned new digital wireless industries. And thanks to the E-rate, which was part of the Telecommunications Act, Internet discount rates have been given to schools, to hospitals, to libraries, in ways that have increased the number of our classrooms connected to the Internet from 3 percent in 1994 to 63 percent in 1999. And soon, we'll have 100 percent of our schools connected, except those that are too old to be wired, and that's a story for another day. But I'm trying

to fix that, too.

We've also worked to accelerate R&D at every level -- pushing for an extension of the Research and Experimentation tax credit; increasing our national science and technology budget every single year over the last seven years.

You know, Dr. Rodin mentioned ENIAC. Nearly all of the information innovation in the entire information age started as long-term research projects beyond the three-to-five year time horizons of most corporations and their ability to fund their own research. That is why we have tried so hard to expand the federal government's role, and why we continue to do so.

So, I think the role of fiscal responsibility was important. The role of technology is profoundly important in explaining not only why we had this recovery, but why it's gone on so long, and why it's operated so strongly, and why it hasn't been overcome by inflation.

Before I go on to talk about how we can keep it going and spread it, let me just mention, there are other factors as well. I don't think there's any question that, in addition to fiscal policy, we've had good monetary policy coming out of the Federal Reserve. And the reason is, the Chairman of the Federal Reserve, Mr. Greenspan, was able to look at the evidence of the new economy over the traditional ideology, which would have said, you better stop this thing now, because it's gone on longer than anything else has, therefore there is by definition inflation, even though you can't see it, so raise interest rates and stop it right now. He was resisting that, because he knew something was going on, even though no economist could give him a model which proved it. And I think that that has been very important.

I think the fact that we have had two decades of bipartisan support in the White House for open markets in America has been very important. You know, when politicians talk about trade, they only talk about the products and services we sell around the world. And then they become vulnerable, because we have a trade deficit. Well, one of the reasons we have a trade deficit is, we quadrupled our debt over the previous 12 years before I came here, and another reason is that our economy has been stronger than other people's economies, so we've had a demand greater than our ability to sustain it here at home. But I think it's important to point out that it's not just exports that are good, imports can be good, too. Most of you who are here are wearing something that was made in another country. And you might rail against imports, but I bet you're not going to throw it away, whatever it is.

It broadens consumer choice -- and something else that has happened that almost nobody talks about is that the fact that we have had open markets has contributed to greater competition and kept down the risk of inflation.

I never will forget when interest rates came way down in a hurry after I took office, and the home building business just was booming. And everybody started buying homes because they could finance their mortgages at such low rates. And there was a shortage of timber, and the price went through the roof. And I looked at the indicators, as I have every month since I've been here, and I said, oh, my goodness, maybe we're not going to -- surely this is not going to happen right now, surely we're going to get more than a two-year recovery. And it wasn't two months before the price of lumber had gone back down because of import substitutions. Because when the price went up, the market became attractive, the market became sated, went back down, and we continued to grow without inflation.

So I think that has been under-appreciated. That's why we've tried to build bridges to Latin America, to Africa, to the Asian Pacific countries, and I'll say more about that in a minute. But I think it's very, very important.

I think the role of sophisticated capital markets in America is very important. Everybody knows what mistakes were made in the bad days of the '80s with the savings and loan crisis. We don't give enough credit to the fact that people who have been able to get credit when they needed it for venture capital enterprises continue to invest and build the new economy. And those of us who want to see it spread believe there ought to be more venture capital into places and to the people who haven't had access to it.

But our markets work better than most other countries do for entrepreneurs. That's why you have so many people just a couple of years older than most of the undergraduates here who are worth a couple hundred million dollars with their .com companies. It makes all of us who are older think we were in the wrong line of work for a long time. But an idea is not worth anything unless it can be translated in business into an enterprise, and that requires capital.

And, finally, I think you have got to give a lot of credit to the businesses that restructured in the tough years of the '80s, and to the American workers who put a higher premium on their own education and training than ever before, and who have been very sophisticated in this economy -- asking for pay increases more in line with the increase in earnings of their companies than ever before.

One of the things people used to tell me when I was an undergraduate in college was that economic expansions were broken because working people saw the economy growing and they wanted their share of it, and they would always ask for more than a growing economy would warrant, and that would build inflation into the economy. You haven't seen that here. And it's a tribute to the people who work in America who understand the connection between economic growth of their firms and growth in their own paycheck and earning.

So there's plenty of credit to go around. President Kennedy once said, victory has a thousand fathers; only defeat is an orphan. And I do think it's important to recognize there are many factors in this recovery. But I think they would not have happened, we would not have had it in the first place, if it has not been for a responsible fiscal policy. And it clearly would not have gone on as long as it has and the way it has without the information technology revolution.

So the next question is: Can we keep it going, and if so, how? And can we spread the benefits to people in places that have been left behind? I would suggest the following things. The first is, you can't forget what got us here. We have to maintain our fiscal discipline.

When I put out my last budget, it was interesting -- I figured I got it about right because I was attacked from the left for practicing Coolidge economics, because I want the country to pay its debt down; and I was attacked from the right for investing too much money in education, health care and the environment, and science and research. So I said, I must be doing this about right. (Laughter.)

But let me take the fiscal discipline argument. One of the ways we've continued to grow is to make capital available to the private sector. There's a lot of debt out there now -- business debt and personal debt. It doesn't look damaging today because the debt-to-wealth ratio is still very good, because so much wealth has been

generated in this economy. But we have to maintain confidence and we have to keep interest rates down, which means we have to keep paying this debt down.

We could, in effect, pay off all the publicly held debt that the government has over the next 13 years. That would make America debt free for the first time since Andrew Jackson was President. That's even before I was around -- 1835. Now, I would argue that in a global economy that's a good deal. Why? That means that your children will have a structure of interest rates lower than what would otherwise be the case. And unless you believe that the process of globalization is somehow reversible, and the global capital markets will somehow cease to exist, that has got to be good policy. So that, I think, is the first thing we have to do.

The second thing we have to do is to continue to invest in our people. We have to continue to improve the productivity and availability of American people. There are still lots of people in this country that are unemployed or under-employed. We have to take all the people that are on public assistance of some kind or another, make sure they all have education and training and then access to jobs.

I just announced an initiative yesterday rooted in the fact that two-thirds of the new jobs are being created in the suburbs and three-quarters of the people who want jobs are in inner cities or rural areas, not suburbs. And the government that gives them assistance also has put all kinds of barriers in the way of these people having cars or social service or faith-based institutions buying vans and getting them from where they live to where the jobs are. But this is very important. We've got to continue to invest in education and training.

The increases in the Pell Grants we've had so far, and the work-study program, and the AmeriCorps program, and the HOPE scholarship, which is a \$1,500 tax cut a year for most people for almost all of college, has in effect made two years of community college available to every American. We now have a proposal before Congress to make up to \$10,000 of college tuition deductible for all Americans, at a 28 percent rate for people in the 28 percent income tax bracket or the 15 percent income tax bracket. And if we did that, we would in effect make four years of college available at some four-year institution to all Americans. I think it's an important thing to do. (Applause.)

I urge all of you who will be undergraduates or graduate students here after the census is completed -- whatever your field of study -- to get a copy of the census and the analysis of it, because one of -- the census data, whether you're into statistics or not, paints a picture of America unlike anything else. And it will document to you, in stunning terms, the premium of education, even more than you instinctively know. This is a profoundly important issue if you want America's economy to grow over the long run.

The third thing we have to do is to continue to push for open markets and free trade. That's why I strongly support bringing China into the World Trade Organization. It's the biggest market in the world; only about 5 percent of it is open to us now. We make no new concessions in our markets to get massive access to Chinese markets, in return for putting them into the World Trade Organization. It is economically a good deal; it is also very much in the national interest.

If you -- those of you who are young have no memory of the fact that your country fought three wars in Asia in the 20th century, because of turmoil and instability. And China still does things we don't agree with. But everything I've ever learned, not only as President, but about human nature, in my life, indicates that if we give

them a chance to be a part of the global community, and they have decided to take the risk of enterprise and lack of control and creativity -- all of which runs counter to a top-down, totally controlled society -- that we ought to give them a chance to make it.

We can't control what China does. And I'm not going to stand here and tell you that they're going to turn out as we would hope. But I'll tell you this; we can control what we do. And if we do this, 20 years from now we'll look back and wonder why we ever even debated it. And if we don't, 20 years from now we'll still be kicking ourselves in the seat of the pants for turning away from an enormous opportunity to give our children a safer world. That's what I believe. (Applause.)

I also think it is very important to recognize that in order to keep this economy going, we have to find more and more new customers. I'm going to the Indian subcontinent in a few days. I'm trying to get Congress to pass a new bill to open trade opportunities with Africa, with the Caribbean basin, to do more with our neighbors in Latin America. Last year, Congress agreed to begin with me a historic effort for the United States to do its part to relieve the debt of the poorest nations in the world. A lot of the poorest countries in the world can't be our trading partners, can't grow, can't stabilize, because they're spending money they ought to be spending on education and health care and economic development paying interest on debt. And they'll never catch up. We're never going to get paid off anyway. And if we can get a commitment for that money to be reinvested in the economy and the education and the health care of the kids, we ought to have a massive effort to relieve debt of countries that are well-governed and responsible. (Applause.)

The next thing we have to do is to continue to open markets here in America. If you heard the State of the Union address for the last two years, you probably have heard all this before. But if I look for ways to continue to grow America's economy without inflation, I look to the areas of high unemployment. If you can create new businesses, new business owners, and new employees who are also consumers, within our borders, that will grow the economy without inflation. It will also fulfill our moral responsibility to give everybody a shot at the American dream.

I mentioned to you that the Pine Ridge Indian reservation has an unemployment rate of about 70 percent. But there are plenty of inner-city neighborhoods -- including some in this city -- and many rural areas that have unemployment rates that are still two times or more the national average. And yet I believe intelligence is pretty equally distributed throughout this old world.

I bet a lot of the students here have bought and sold things on eBay. You ever use eBay? Everybody that ever used eBay, raise your hand. I -- some of the young executives at eBay, I've become acquainted with them. And one of the things I learned is that 20,000 Americans now make a living on eBay. Not working for eBay, not working for the company -- make

a living on eBay, buying and selling. And that many of them used to be on welfare. No car, no way to get to a job; get hooked up to a computer, find eBay, go around the neighborhood, find people you can do business with. And poof! You've made a business.

Now, there is a real opportunity here. And I think we ought to -- my basic theory is this: we ought to give the same tax incentives to Americans to invest in poor areas in America we give them to invest in poor areas of Latin America, or Africa, or Asia. I think it's very important. And it's a real opportunity. (Applause.)

We've had great success in our enterprize zones -- one of which is here -- with our community development financial banks, which make loans to people who couldn't get them otherwise -- one of which is in Philadelphia -- with vigorous enforcement of the Community Reinvestment Act -- which has been on the books for 22 years, but over 95 percent of all the investments have occurred in the last seven years -- because it's good business to invest in honest people with skills and ideas and markets, who are in places that are underserved. And it will help the rest of us to keep this economy going.

Final thing I'd like to say is, we've got to continue to deal with the full implications of this revolution that we're in -- one, to stay on the far frontiers of science and technology in every way. Sooner or later, even the most hardheaded rejectionist will have to acknowledge that the problem of climate change is real, and that we had better find a way to grow our economy and improve our environment at the same time, including reducing the amount of greenhouse gases we put into the atmosphere. When we do that, we will realize that there is a \$1 trillion potential market out there that will do wonders for the American economy, if we are out there with the products and services necessary to save the planet.

The same thing will be true with all the incredible discoveries that will be made in biology in this century. So we -- that's why I recommended a \$3 billion increase in our 21st century research fund, and why I hope and pray and believe that there will be a bipartisan support for it in Congress.

And the last point I want to make in this regard is that we have to close the so-called digital divide. When I mentioned to you that I bought those Christmas gifts from the Indian reservation through e-commerce, that's closing the digital divide. I mentioned to you that we're trying to hook up every classroom and library; that's closing the digital divide. We're going to try to train huge numbers of new teachers in all the schools in the country so their kids don't know more about the Internet than they do. That's closing the digital divide. We're going to establish 1,000 community centers so adults can have access to the Internet who don't have it now. That's closing the digital divide. We're going to take a whole tour on that this spring.

But I believe that not only within the United States but beyond it, we could skip years and years it would otherwise take to bring poor areas up to standards and educational opportunities, and economic opportunities, if we maximize the use of technology. And again, I think it's a great economic opportunity. But it won't happen by accident. We'll have to make a deliberate decision to do it.

So these are the things that I think we have to do. We've got to stay the course on fiscal discipline. We've got to stay the course on expanding trade. We've got to bring economic opportunities to people and places that haven't had them here in the United States. We've got to continue to lead to the far frontiers of science and technology. We've got to close the digital divide.

One last point I would like to make, that I readily concede grows out of my political philosophy. Life is about more than economics, and societies do well economically when they are strong generally. That means I believe that when we passed the family and medical leave law, which has allowed 20 million people the ability to take time off from work for a newborn baby or a sick parent without losing their jobs, I think we strengthened the American economy. When we raised the minimum wage, I think we strengthened the American economy.

And we have to continue to look for ways to balance work and family, because most people will tell you that the biggest challenge a lot of Americans face, now that most people have a job, is figuring out how to be good parents and successful in the workplace. And this is a challenge faced increasingly not just by people with low incomes, but by people who are in middle and upper middle income positions. This is important.

We have to face the challenge of the aging of America. Now that we're not spending this surplus that's being accumulated by your Social Security taxes, I think we ought to take the interest savings and put it in the Social Security trust fund. And if we do it right now, we can run that trust fund out to 2050, which means when all the baby boomers get in retirement years, and when we double the number of people over 65 in the next 30 years, that those of you who are having your children then will not have to worry about whether you can send your kids to college because you've got to pay for all of us. It's a great social question, but it will have a profound impact on the economy.

So I ask all of you who are -- particularly you young people -- don't ever forget that there are what the economists used to call "externalities" that will affect the health of your economy. And the strength and cohesion of our society, the sense of fairness and justice and energy with which people get up and go to work every day, which are unmeasurable, will have a profound impact on the health and welfare of our American society.

I think we have to keep working to eliminate hate crimes and the feelings of discrimination we have against people just because they're of a certain race or of a certain religion, or because they're gay, because I think all that is not only bad, it has an impact on our ability to work together, to be productive, to make the most of our own lives. And I hope you will never forget that.

I worked as hard as I guess any President ever has to fulfill our campaign commitment, which in 1992 in James Carville's eloquent words were, "it's the economy, stupid" -- and I believe that, but I never believed it was just about money. And I never believed it was just about jobs.

One of the most exciting things to me is that so many of these young people I see making huge sums of money in an economy of ideas are leaving all their money in their firms and still living on fairly modest wages, and they're a lot more worried about what they're going to spend their money on that's good rather than what they're going to buy with their wealth.

So the purpose of all this, never forget, is to build the more perfect union of our founders' dreams. That's the purpose of it. It's to give people control over and direction over their lives, and the ability to raise their children and to follow their imagination. And no generation of Americans has ever had this chance to the extent that all of us do.

So I hope that all of you will think about these things, and ask yourself these questions: How did we get here? How are we going to keep it going? How are we going to give these opportunities to people in places that have been left behind? And what else do we have to do to be a better place, so we'll all be free to live up to the fullest of our God-given abilities?

Thank you very much. (Applause.)

END

4:40 P.M. EST