The White House,
October 12, 1999.

Remarks at the Eighth Millennium Evening at the White House
October 12, 1999

[*The First Lady began the program making brief remarks and introducing the evening's featured speakers: Dr. Vinton G. Cerf, senior vice president of Internet architecture and technology, MCI WorldCom, who discussed the evolution of Internet technology; and Dr. Eric Lander, director, Whitehead Institute/MIT Center for Genome Research, who discussed advances in genetic research and biotechnology.*]

The President. We have had many wonderful nights here, but I don't think I've ever been more stimulated by two talks in my life. Thank you, Dr. Cerf. Thank you, Dr. Lander.

I would like to also say a word of appreciation to Hillary. I think that, as our time here draws toward its close, it's clear that she has been I believe the most active and innovative First Lady since Eleanor Roosevelt, for perhaps these Millennium Evenings will last longer in the imagination of America than virtually anything any of us have done, and I thank her for that.

Also, being term-limited does have its compensations. Normally, at this time of year, in this kind of year, I'd be doing something else tonight. [*Laughter*] Yesterday I called the Vice President to rub it in and describe what I would be doing tonight. [*Laughter*] And I was having a very good time turning the screw about how fascinating this was going to be. And finally, he said, "That's okay, you need to be there more than I do." [*Laughter*] The jokes about my technological and scientific limitations are legion around the White House. [*Laughter*]

So I have been thinking of all these questions. Do I really want a mouse smart enough to go to Princeton? [*Laughter*] Won't it be sad to have an Internet connection with Mars if there are no Martians to write to or E-mail us? [*Laughter*] I am glad to know that the total connection of the Internet to the nervous system of human beings is a little ways out there in the future. I had been under the impression that that has already occurred among all children under 15 in America. [*Laughter*]

This is an amazing set of topics. Let me say just one other thing. I really loved seeing—on a slightly sad note, I loved seeing that wonderful, famous picture of Wilt Chamberlain and Willie Shoemaker. Some of you may know the great Wilt Chamberlain passed away today, one of the greatest athletes of the 20th century. So I hope you will have him and his family and friends in your thoughts and prayers tonight.

This is a fitting thing for us to do in the White House, because innovations in communication and technology are a very important part of the history of this old place. In 1858 the first transatlantic telegraph transmission was received here in a message that Queen Victoria sent to President Buchanan. Later, the first telephone in Washington, DC, was located in a room upstairs, and we now have a replica of that telephone in the same room upstairs. The first mobile phone call to the Moon was made here by President Nixon 30 years ago. Even these Millennium Evenings have made their own history. This is where we held the first-ever cybercast at the White House.

So I want to thank the speakers for building on all of this and telling us what we can look forward to in the future and for reminding us that as we unlock age-old mysteries and make what we can think more possible to do, there are ways to do it that bring us together as a society.

So I would like to begin the questioning, if I might, with a question to Dr. Lander, because it bears on a great deal of the work we've done.

You talked about how we were 99.9 percent the same, but how if you looked at how many permutations there were in the one-tenth of a percent left, we could still be very different. I think it's very interesting—and I talk about this all the time—that as we're on the edge of this new millennium and we have these evenings and we imagine this future that you have sketched out to us, this is what we all like to think about, how exciting, how wonderful, how

unbelievable it can be. The biggest threat to that future is how many of us on this globe are still in the grip of the most primitive of human limitations, the fear of the other, people who are different from us. And we see all over the world, from Bosnia and Kosovo to the Middle East to Northern Ireland to the tribal wars in Africa, how easily the focus on our differences—that one-tenth of one percent—as what matters can lead first to fear and then to hatred and then ultimately to dehumanizing people who are different.

And it's very interesting, as someone who grew up in the segregated South and lived with the whole terrible and yet beautiful struggle of the civil rights years, to think that there were in my hometown people who were dehumanizing other people because of the one-tenth of one percent difference between them is quite an awesome thing to contemplate.

So I would like to ask you, if you could say in ways that would make sense to us, explain to us a little bit what is it that makes us the same and what is it that makes us different? And how could we communicate this scientific knowledge to people in a way that would diminish the force of racism and other bigotry in the world in which we live?

[*Dr. Lander responded to the President's question. Then, White House Millennium Council Director Ellen Lovell led the question-and-answer portion of the evening. One of the questions concerned the legal status of privacy rights.*]

The President. Let me just say this. We've been working on this, and it's very important to me because I'm a fanatic about this issue. I want unlimited scientific discovery, and I want unlimited applications. But I think we don't want people to lose their sense of self and the fragility of their personhood, here, in some sort of assault. So we've been working on this.

What you said sounds great, but it's not as easy to do as it sounds. So I think it might be helpful, if I could just ask Secretary Shalala, who is in charge of one piece of this, which is our efforts to protect the privacy of medical records, just to talk a little bit in practical terms about what we're doing to respond to this young man's question.

Donna, would you? There's a mike.

[*Secretary of Health and Human Services Donna E. Shalala noted the relative lack of Federal protection of an individual's health information, citing that video rental records were more secure. She also noted that a person's State of residence could make a difference.*]

The President. But let's deal with two hard questions here, real quick. I think this is important. Question number one, pretty soon if the genome project is brought to fruition, according to what Dr. Varmus told me, when I spent a day out there, it will become normal in some point in the not-too-distant future for young mothers to go home with their babies from the hospital with a map of their genetic future. You may not want to know about Alzheimer's, but you could know about things that even if you can't cure you could delay, defer, or minimize. So you get that.

Now, the mother and the father are employed by someone, and they provide family health insurance. Since private insurance is based on a reasonable approximation of risk—I don't agree with the way we finance health care in this country. You all know that, but that's a fight I didn't win here in the last 7 years. If it's based on an assessment of risk, what should the insurance company have a right to know? And if the insurance company doesn't have a right to know, haven't you undermined the whole basis of privately funded insurance based on risk—question one. Question two for you.

Dr. Cerf. We don't get to answer that one?

The President. Yes, I want you to answer that, but I want you guys to talk. Question two, this is the problem we face in a much more grave sense in dealing with the prospect of cyberterrorism or something. It's one thing for us to write laws that protect privacy of records. But you just got through—in answering Omar's question, you were talking about how, well, but all these kids are always figuring out, well—among the things they're figuring out is how to break into various systems all the time. So even if we had perfect laws, how are we going to protect privacy when we're dealing with all of these creative geniuses out there working through the net? Respond to those two questions.

[*Dr. Lander replied that insurance companies' right to know depended on whether insurance was about matching rates to risks or about sharing risks not chosen. The question-and-answer portion of the evening continued and included a question from the Internet by Danella Bryce*

in Sydney, Australia, about technology's effect on alleviation of growing numbers of the disadvantaged in world population.]

The President. Can I give—you said that we got 6 billion people last night. Half of them live on $2 a day; 1.3 billion live on $1 a day or less. Those are the numbers behind what Ms. Bryce is asking.

[*The discussion continued.*]

The President. If I might just interject. I don't know the answer to this, but I've spent a lot of time thinking about it. This woman, Ms. Bryce, she works, and she's talked about she works in sustainable development. A big problem in poor countries, they totally destroy the environment to try to develop, and then they don't have anything upon which to develop. The biggest problem in our hemisphere is Haiti. If you fly over the island of Hispaniola, you know when you're going from the Dominican Republic to Haiti, because in all the years when it was governed by dictatorships, they just tore down all the trees and—if any of you know anything about it, know this.

The real question is—we used to have certain assumptions about development in a poor country: that if you wanted ever to build a middle class life for a substantial number of the people, yet have X amount of electric generating capacity, you had to have Y number of roads, and you had to have Z number of manufacturing companies, no matter what they did to greenhouse gases, and that eventually you get around to building schools and universal education, and then 30 or 40 years later you start letting the girls go to school with the boys and there is this sort of thing that would happen.

I do believe that the question, the real question is if you're running a country like this, should you put this sort of infrastructure development first? That is assuming you've got a base level of electricity necessary to run a system. Should you do this first because this gives you the possibility to skip a whole generation of development that would otherwise take 30 years in the economy and in education? And I think the answer to that, at least, is, maybe—at least, is, maybe. That I think is really the question that this woman is asking.

[*The discussion continued.*]

The President. If I could just give you one example, because I think this may have also relevance for remote, physically remote areas in America, Appalachia, the Native American reservations, things of this kind.

We were talking before we came in here tonight. I was out in northern California the weekend before last. And I was talking with a lot of people who work for eBay, and they were telling me that there are now, in addition to the employees of eBay, over 20,000 people who make a living on eBay, buying and selling and trading, and that a fair number of these people were actually people who once were on welfare, who moved from welfare to work. That is, from—and presumably a lot of them work, didn't have a lot of formal education. They had made this jump, and a market had been created for them, where they lived, that otherwise would be alien to their own experience. They wouldn't have been able to go down to the bank and get a loan and on and on and on.

Now, last year we made and this year we will make, through our aid programs in foreign countries over 2 million microenterprise loans to poor people, to help them start their businesses in Africa and Latin America and Asia. If you could somehow marry the microenterprise concept to setting the infrastructure of the Internet out there, I do think it's quite possible that you could skip a generation in economic development in a way that would reinforce rather than undermine the environment.

[*The question-and-answer portion of the evening continued.*]

The President. Did you say you expected the penetration of the Internet to equal that of the telephone by 2006?

[*Dr. Cerf confirmed the Internet would equal the size of the telephone system by 2006 and, thereafter, exceed both telephone and television.*]

The President. I want to get to the genes, but I think we should answer that question, too. The whole question of whether we're going to develop a digital divide in our country, I think, is a very, very serious one. Our administration, especially the Vice President, when we rewrote the Telecommunications Act, we fought very hard not only to get people to participate in NetDay to hookup every classroom and library to the Internet by the year 2000—I think we'll get there by the end of the year; functionally, we'll be just about there—but also, to get the Federal Communications Commission to

adopt an E-rate which would subsidize the cost to poor schools and poorer hospitals and poor areas and isolated rural areas, so that everyone could have access in the schools.

Now, but the divide won't be bridged until the parents of those children have that in their home. So I think we ought to have as a goal at least to make access to computer technology and to the Internet as universal as telephone access is. And I think until we achieve that, there will be a digital divide, so we ought to try to hasten that day and promote whatever policies we can afford or we can achieve to hasten that day, because until we do, there will be a digital divide.

Dr. Cerf. I agree with that. In fact, it's a goal. A personal goal of mine is to see, literally, Internet everywhere.

The President. Now, what about the gene? That goes to patenting and all that, doesn't it?

[*The discussion and question-and-answer portion of the evening continued. The First Lady then introduced the outgoing Director of the National Institutes of Health, Dr. Harold E. Varmus.*]

Dr. Varmus. I assume by "outgoing" you mean I'm leaving as opposed to my social behavior. [*Laughter*]

The President. You mean, as if an outgoing head of NIH were an oxymoron? [*Laughter*]

[*Dr. Varmus made brief remarks about the role of genetics in cancer research at NIH.*]

The President. Before we go on, I just want to say—we sort of glided over this—this man has done a magnificent job at the NIH for a long time, and I am very grateful. We thank you for it, for your service to your country.

[*The question-and-answer portion of the evening continued.*]

Ms. Lovell. I think you just summed up the whole evening. And I'm going to give the President the last minute.

The President. Well, you know, that great humorist Ogden Nash once said, "Progress may be all right, but it's really gone on too long." [*Laughter*] And I was thinking that if he were here tonight, he would have to revise his opinion.

This has been an astonishing evening for me and for Hillary and I hope for all the American people and the people throughout the world who have been a part of this.

I want to thank you both. I want to just leave you with one thought: There are public responsibilities involved here, particularly for basic research. We have been very successful, and never more successful than under the leadership of Dr. Varmus, in getting strong bipartisan, nonpartisan support for investments in health. And I think that it's obvious that we can all see that as in our self-interest and as in the public interest. We want to live forever, and we're getting there.

But I think it's quite important also not to forget our responsibilities for basic research in other areas as well. And one of the things that we will come to know as the intersection of your two disciplines, informatics and genomics, come together, then we will have to study even more closely how all this that we know about the human body and its development interacts with changes in the environment.

So other areas of research will be also important, into things like global warming and climate change and the sustainability of the environment. And what I hope we can do is to build a broader consensus, as we look into the new millennium, for the whole research enterprise in those areas where it will never be productive in the beginning, or profitable for people like you, to do the beginning. And then we can find these things, and then the American entrepreneurial genius will take off.

And so I leave here with a renewed commitment to trying to help people like you get started. We may not understand it, those of us in politics, but we have an obligation to help you find it.

And when the first mouse graduates from Princeton, I will invite you both to deliver the commencement address. [*Laughter*]

Thank you, and good evening.

NOTE: The White House Millennium Evening program began at 7:35 p.m. in the East Room at the White House. In his remarks, the President referred to basketball Hall of Famer Wilt Chamberlain; and retired jockey Willie Shoemaker. The discussion was entitled "Informatics Meets Genomics." The transcript released by the Office of the Press Secretary also included the remarks of the First Lady, Dr. Cerf, Dr. Lander, Secretary Shalala, Ms. Lovell, Dr. Varmus, and the participants in the question-and-answer portion of the evening. The discussion was also cybercast on the Internet.