High Tech High Touch,
The Consequences of Our Relationship to Technology on Our Lives and Business*

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It is great for me to be back in Korea. It is great to be back in Seoul, I have been here quite a few times, but this time I was able to bring my wife, Doris, who is with me here this morning. It is a special pleasure for me to introduce Korea to her. I am very pleased to be sitting here with Dr. SaKong and to be associated with the Institute for Global Economics and to be part of this distinguished lecture series.

As for me, I am starting over -- again. At the age of 72, I have recently remarried and I have sold my homes in Telluride, Colorado and Cambridge, Massachusetts. My new wife and I have just bought a new flat in Vienna and I am learning a new language -- German. Change. Isn't that what the whole world is about today? Individually, institutionally, nationally and globally.

One of the great changes in our lifetimes has been, over the last couple of decades, the acceleration of the global economy. The acceleration of moving from a collection of nation-states to eventually one economy, and I think that is the direction that we are going.

However, with this rush to globalization there is a rich paradox and that is that while the globalization of our economies is of paramount importance, no one knows how the global economy works. I think that is the good news, because if we do not know how it works, we cannot fix it. Frederick Hayak, arguably the greatest economist of the twentieth century and a Nobel Prize winner, said that the global economy is the most complex thing in the universe and that it is inherently incomprehensible. We cannot know how it works when there are trillions and trillions of variables and of course, it is self-organizing. But we can know some things about the global economy. The trick is to be clear about the things we do know and the things do not know and the things we are just speculating about.

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The famous American science-historian Thomas Kuhn admonished us many years ago that you cannot understand a new paradigm by using the vocabulary of the old paradigm. This is very well illustrated in the way we talk about "virtual offices" and "virtual corporations." We do not know what to call them. That is really the new way, but we do not know how to describe it. We do not have the wit or the understanding to really call it for what it is and we may not know for a long time. This reminds me a lot of the term, "post-modern." There was, especially in the West but everywhere, a "modern" period and after the modern period, there was another period, but we did not know what to call it and did not understand it, so we called it "*post*-modern" and we are still calling it post-modern.

The Internet is not about technology. The Internet is about putting people together. The Internet is a social phenomenon and it cannot be understood as a technological phenomenon, but only as a social phenomenon. Cellular phones are not a technological phenomenon, but a social phenomenon. But of course, in both cases technology is the enabler, but they cannot be understood from that side and in both cases, no one is in charge. Again not having the vocabulary or the understanding, we speak of the "new economy." And I remember, as I am sure you do, about two or three years ago when that term was first used, especially the media embraced it immediately because it was a label they could use – the new economy. What it really was was what we had been doing all along. We had been buying and selling forever, but now we have new technologies and new platforms, but it is still the old economy in a sense. It is still the buying and selling.

In all of this, over the years since I have been coming in and out of Asia for 35 years now, one of the things that I have been worried about with Korea is that the economy is so top-heavy, at least as I see it from afar. I remember a few years ago it was calculated that the 10 largest chaebols accounted for 70% of the economy. This is now beginning to change and in my view that is good, but I would like to contrast that with the US economy. Not that the US economy is the be all and end all model, but it has not been doing so badly, and it is very different. In the US the 500 largest companies – the Fortune 500 – together account for only 9% of the US economy, but when you read about US business in Korea and when I read about US business in the US, I almost always only read about the Fortune 500, about 9% of the economy. It is very distorting. In the US the economy is elsewhere – medium- and small-sized companies. Today

50% of US trade is created by companies with 19 or fewer employees. Only 7% of American exports are created by companies with 500 or more employees.

What I am excited about recently in Korea is the beginnings of a real entrepreneurial movement. It is very interesting today that in Korea 9% of working adults work for companies that are only three and a half years old or younger. That is currently the largest percentage in the world in that category. I think this is a wonderful signal of some churning that is going on and of some renewing and rebuilding that is going on here in Korea.

This is a great period for entrepreneurship. When there is great change, it is a great time for entrepreneurs. Again, let's look at the US, just to use that as an example that I know best. In the US last year, we created more than 1 million new companies. Imagine, a million new start-ups. It was the third year in a row that we had created more than one million new start-ups and the same will happen this year. Let me give you a reference point. In the booming 1950s and 1960s in the US – the great industrial boom – when everything was pretty much in place and we were rolling along, we were creating only 60,000 new companies. That was it. Then along came the 1970s and during the 1970s we began to shift the whole basis of the economy from an industrial base to a service/information base. A great shift and again this was a great time for entrepreneurs. In the US as that shift occurred, we started to create 100,000 new companies each year, 300,000, 600,000 and for the last three years, well over one million new start-ups have been created each year.

Interestingly, two-thirds of those new start-ups are being created by women. In 1940 in the US, women owned 7% of the companies. Today more than 51% of the companies are owned by women. Over the years of going to Japan, I sometimes said that I think it is amazing how Japan became such a great booming place when they used only half their talent. They were just using the males. What would have happened if Japan had used the other of their talent? What a place Japan would have been. That is what is clearly happening in an important way in the US and just beginning to happen in Korea.

Another way to underline what I am talking about here is to notice that 90% of the 24 million new jobs that have been created in the US in the last 8 or 9 years - that is to say, in the US today there are 24 million more people working than there were 8 years ago -

have been in companies with 50 or fewer employees. The US is a great entrepreneurial economy that is based on small- and medium-sized companies.

There has been an increasing skepticism in the West about technology. It began slowly several years ago and my new book is about this and how we ought to be more sensible about technology, i.e., it is wonderful but we ought not to be run by it. We ought to really think about it. Not many people were listening. What it took, of course, was an economic event to get people's attention and that was the crash of the technological stocks. Not only are people reassessing stocks, but now they are also reassessing technology and trying to think about it more clearly. In my view, this is part of a search for balance in our lives and businesses as we become overrun by considerations of technology.

There should also be a balance in education. I know Korea is a country struggling with educational reform while Korea famously has more PhDs per capita than any other country in the world, but more work has to be done on other parts of education. In the US, there is a fantastic higher education system, but the elementary and secondary school systems need improvement. The quick-fix mentality of Americans is to put a computer in every classroom – the great icon of technology, the computer, will take care of it. Well, it will not take care of it. When Bill Clinton was President, he talked almost every week of having a computer in every classroom. I favor a computer in every classroom. I want our kids to know about computers and be friendly with computer and to see them as collaborators. But my campaign is to also put a poet in every classroom, perhaps not literally, but a poet as a metaphor for art, literature and music. My campaign is to have a computer and a poet in every classroom.

The title of my new book is *High Tech, High Touch*. "High Tech" of course stands for high technology. "High Touch" stands for our humanness and the ways we celebrate our humanness through dance, art, poetry and music, and also through community, family, relationships and nature. *High Tech, High Touch* is about the evolving together technology and culture. It is about the interplay between the introduction of technology and our human response to it, and the need for balance between them.

The book is also about with what I call the "ecology of technology". We know that in nature, if you introduce something new into a habitat, you change all the relationships. We must learn from nature. When we introduce technology into the workplace or into

the marketplace, we change all the relationships. We have not thought too much about that and we have not thought about how we can make the most from the changing of the relationships and also prevent any awkwardness because of the change in relationships. The introduction of technology into our societies has always resulted in social change. The difference today is that the introduction of technology has been so accelerated that our social accommodation to the technology has been lagging further and further behind. Some people have been lagging behind as well. So it seems to me that we have to think about that. We have to do something about that.

Technology also holds its own consequences and we often do not think about the consequences of introducing a technology. Sometimes those consequences are unintended. For example, in Dublin, Ireland at the end of the 19th century, there were 8 mail deliveries a day. I remember when I was a graduate student reading the letters of the great poet William Yeats and Lady Gregory and passingly noticing that a letter would be sent, received and responded to again all with the same postage date. And I did not think much about it until years later when I learned about all these mail deliveries. Then at the end of the 19th century there was the introduction of the technology of the telephone. As that technology permeated the society, of course, the amount of mail was reduced and therefore the number of mail deliveries eventually decreased to one each day.

Another consequence was the death of the art of letter writing. Some people say to me, "Wait a minute! People are corresponding like crazy. Emails are flying back and forth all over the world." And I say, "No, I am talking about the death of the *art* of letter writing." Email today reminds me of something the American author Truman Capote said about Jack Kerouac's novel, *On the Road.* He said, "That's not writing, that's typing." For me, email is not writing, it is typing. And sometimes typed very badly. It may be that some time in the future email will become an art form with illustrations, etc. but not in my lifetime and I wonder if anyone seriously thinks that someday we will purchase the *Complete Emails of Bill Gates*.

I think that in these early years of the 21st century the most successful products will be what I would call "high tech, high touch" products. There are a lot of them already – Volkswagen's new Beetle is a very high tech, high touch product because it combines the nostalgia of the original Beetle with a state-of-the-art engine. 21 million units were sold of the original Beetle and in the US the new Beetle has been a great success – great

queues, people waiting 8 months and so forth. Apple's I-Mac personal computer is also a high tech, high touch product, again with a retro design. The I-Mac in profile resembles a 1950s television set, it is programmed for all the family and it is selling very well. Interestingly, almost 50% of purchasers of the I-Mac are people who are buying a computer for the first time.

The Swatch watch is another example of a high tech, high touch product. It takes extremely high technology and combines it with art and flamboyant designs. It has been referred to in Switzerland as, "high technology with a soul." Some years ago the Swiss almost gave up watch manufacturing because the Japanese were taking away their market share at a great rate and many people in Switzerland thought they could not compete against the low wages in Japan. With this in mind, Nicholas Hayek, an engineer and a genius of many dimensions, decided to make watches without people. Doris and I have been in those automated factories that run all night with no staff. They produce watches without people. Part of the genius of Hayek is that in marketing, he decided to create scarcity at the low end. The Swiss know all about creating scarcity at the high end – you have to have scarcity to keep the prices up so high. But Hayek said he was going to create scarcity at the low end by only making 35,000 copies of each model and then breaking the mould thereby, among other things, creating a collectors environment. Swatch now manufactures approximately 200 models each year, many of which are designed by famous artists. Nicholas Hayek says "If you combine powerful technology with the fantasy of a 6-year-old child, you can create miracles." High tech, high touch. Product poetry.

For people who have customers, high tech, high touch translates into "personalize, personalize, personalize." In a high tech world, the high touch of personalization is what really works. No one has done this better than a government agency and that is the Canadian Postal Service. In Canada since May last year, you can go to your local post office, take a picture of yourself and your kids or yourself and your dog, and come back later and purchase a sheet of stamps that are official Canadian postal stamps with your picture on them. Singapore is now doing this and France and England are starting it in the fall.

One of my favorite applications of technology is my favorite theme restaurant in Paris called La Connivence, which is right next to the stock market. In that restaurant, the laws of supply and demand apply. When you order your dinner, a computer

immediately calculates the price based on demand and, like the stocks next door, popular dishes go up in price and less popular ones go down. Now, you can pay the price when you order or you can play the futures market by agreeing to pay the price at the time you pay the check. This just suggests what computers and technology can do for us.

On the subject of restaurants, I cannot resist telling you about, if you have not seen this, Doris and I were in Tokyo recently and there is a new craze there for all-you-can-eat buffets where you pay by the minute. There are 200 of these restaurants in Tokyo now and some of them are really sumptuous. The way it works is kind of a throwback to the industrial period – you go in, punch a time card and then you load up, eat and come out and punch a time card and it costs about 45 Yen a minute or about 42 cents a minute. Now there are strategies. People have worked out strategies that are published Tokyo newspapers and one cardinal principle is that you never go back twice because it wastes too much time. This is just the beginning and it gives new meaning to fast food.

Richard Branson, the most celebrated entrepreneur in England, really understands high tech, high touch. With his Virgin Airlines, he also has 200 other companies reporting to him, which could be a case study all by itself. In any case, Virgin Atlantic was the first airline to put screens on the back of seats for passengers to watch movies and play games. They also have on-board bars, masseuses and other high touch amenities. Now it is bedrooms. In 1995, first Air France and then British Airways made horizontal seats in first class. Now Richard Branson is going into bedrooms. They are drilling holes down from the first class cabin into the cargo hold and creating 12 bedrooms with jacuzzis and double beds. Richard Branson says, "This is going to herald a new era in in-flight sex." The very high touch Mr. Branson says, "We are going to legitimize the mile high club." These quotes appeared in family newspapers all over England. However, the serious point here is that Richard Branson understands high tech, high touch – he knows the other airlines all have the same high technology as Virgin and the only way that he can differentiate himself from the other airlines is through his high touch offerings. And if your competitors have the same high technology that you do, the only way you can differentiate yourself is through high touch.

I want to conclude by just noticing that all the talk over the last few decades has been about information technology, but the most important technology in the first part of the

21st century will be genetic technology – the genetic engineering of human beings as well as agricultural products. The importance of these soft or biological technologies overwhelms the importance of the hard technologies we mostly talk about. We are going to get very engaged in that. My plea is to really understand and be sensible about technology and to try to keep it in balance with the rest of our lives and businesses.

Perhaps we can learn from the words of Charles Darwin, who was arguably the greatest scientist of the 20th century and who is the forerunner of all genetic technologies. At the very end of his life, Charles Darwin wrote, "Up to the age of 30 or beyond it, poetry gave me great pleasure, but now for many years I cannot endure to read a line of poetry. My mind seems to have become a kind of machine for grinding general laws out of large collections of facts. And if I had my life to live again, I would have made a rule to read some poetry and listen to some music several times every week. The loss of these tastes is a loss of happiness, and may possibly be injurious to the intellect, and more probably to the moral character, by enfeebling the emotional part of our nature."

Thank you.

Questions and Answers

Q:

Firstly, do you believe in Schumpeter's middle-term 50-year managerial wave cycle? Secondly, what is your view on the core elementary of the digital economy?

A:

I do not believe in the middle-term wave cycle. I believe that we are going through such an important shift in so many regards that a lot of the ways in which we have been instructed in the past, the formation of cycles, etc., do not really serve us as well as they did.

I would like to discuss the point about information and recent developments. With the digital economy, there will be a long shake-out period, which we should have anticipated because it has happened before. For example, in the first half of the 20th

century when we were trying to come to terms with automobiles, 2700 automobile companies were created in the US alone. By the late 1950s there were 3000. We are now going through a similar shake-out period with the new information technology companies. Given the character and the nature of these companies, there will eventually be thousands of them, but in this long shake-out period hundreds will go bankrupt. For that reason, investing in these companies is like a lottery. In the 1880s and 1890s when electricity arrived, almost all of the thousands of companies that were created went bust. The same thing happened when the railroads came in. So, in my view, the new cycle is the subsequent shake-out period after the introduction of the new technology.

Q:

Adjustments in dotcom bubbles are an inevitable process, but do you think enough adjustments have been made in the last few years or will there be more?

A:

The fiscal crisis of 1997 and 1998 will always be remembered and it will instruct us as we move forward. We may overreach but that experience will always help shape our view of economies in Asia in the future. Similarly, the early bursting of the bubble will instruct people in the US and Asia on Internet companies. Therefore, we will be better prepared to make assessments of these problems. However, the digital economy is still in such a primitive stage that I think the shake-out period in IT companies will probably last for a couple of decades.

Q:

Do you think Koreans are investing enough in high technology?

A:

Korea is one of the world leaders in this regard. For example, in broadband Korea is leading the world. I think Korea is on board in a very sophisticated way with information technologies. However, that is no guarantee that Korea will get it right and so now must work sensibly in order to do so.

Q:

The rise and fall of high tech is so prevalent and causes uncertainty among consumers and those in the high tech industry about the future trends of high tech. What would you recommend to those people in the high tech industry on how to survive in the market or to take the lead of this future trend?

A:

It seems to me that if everyone has access to the same technology, it is not more technology but more high touch that is required to be competitive. The more remote you are from your customers technologically, the more personal have to be the relationships. For example, hand-written notes in a high tech world are very high touch and extremely effective. My plea is for more of a balance between high tech and high touch both in our personal lives and also in our business and professional lives, because both aspects have tipped over to the high tech side. In my view, the companies that can accomplish that most effectively are going to be successful in the years ahead.

Q:

A few years before you published *Megatrends Asia* you came to Korea and interviewed a number of Korean economists, of which I was one. At that time, you asked us about the future of Japan. How do you now assess the future of the Japanese economy and society over the next 10-20 years?

A:

Thank you for reminding me of those sessions in Korea. In 1995, when I was researching *Megatrends Asia*, I had such brainstorming sessions in 12 Asian countries which I found to be very instructive. At that time, I said that Japan was on a long downward slide and was losing importance in the region and the world. Of course, this continues to be the case. The problem as I see it is that Japan is incapable of doing what it must do which is to allow the economy to organize itself. The Japanese economy must be revitalized by reorganizing itself by itself. The consideration is that, if Japan does this, there will be very high unemployment for a period, many companies

will go bust and it will be very painful. Culturally and politically, that cannot be allowed to happen. Also, with the new leadership, there is a lot of promise just because of the personalities. For example, Mori was running at 7% approval and Koizumi is now running at 87% approval without having done anything yet. This is an indication of the anticipatory feeling in Japan from having someone fresh and new. Despite this, unless the Japanese are willing to go through an extremely painful period and allow the economy to organize itself, it will never happen. I see no signals that that is going to happen so until it does, I will continue to be bearish about Japan.

Q:

Your message is the importance of high touch as the strategic determinant of international competitiveness in this new era. And I understand you are rather bullish about the future of Asia. I wonder how you would evaluate the potential for high touch of Asian countries compared to their western competitors and, in that regard, are you still bullish? If you are not, what should be done to promote high touch?

A:

In general, I am bullish about Asia. I think Asia is back on the path of being the most economically dynamic part of the world and will be for some time. I am not alone in thinking that China is going to be *the* economy in the future. Having visited China 5 or 6 times in the last 12 months, I have seen the extraordinary rush to modernity that is occurring there. In my view, the leadership in China pretends to rule and the people in China pretend to be ruled, but at the same time they are all reforming the economy and allowing the economy to organize itself and this is already paying off. All the investment that is going on in China today is a signal that China is going to be what a lot of people have predicted. However, we keep thinking about China in terms of the vocabulary of the old paradigm, which we cannot do if we intend to understand the new paradigm. For example, we still talk about who is going to be the next superpower, which is Cold War vocabulary.

The world is moving so fast to becoming one global economy. For example, nobody can say what the size of the US economy is today, because it is so interlaced and so interdependent with other economies. As the world moves ahead this way, we will eventually be unable to determine any country's GDP, because it will be so

economically intermeshed. The important thing will be what companies do, what entrepreneurs do and what institutions do in terms of trading and creating wealth, but not what countries do, because countries do not act in the same way as companies and institutions.

Q:

I am sure that you are preparing another book on the future of Asia. Can you give us three megatrends which should concern us for the next 10 years?

A:

In terms of three megatrends, I think the most important thing in the world economically today is the accelerated globalization of our economies. I say that because globalization in some forms has been going on for centuries, but this accelerated pace of globalization is extraordinarily important.

The second would be technology, which is also important. However, we really have to start paying attention to the soft technologies and the soft sciences, which would be a third megatrend. In most places in the world when you talk about technology, most people think of the hard technologies like computers, telecommunications, etc. In the meantime, the soft, biological technologies, such as the genetic engineering technologies, are gaining ground very quickly.

Living in Europe it is clear that a lot of Europeans are upset with genetically-modified foods. However, we are soon going to realize that we have already started down the path of genetically-modified human beings and that raises all kinds of questions of ethics, etc. The world was very upset when Dolly the sheep was cloned because we immediately began discussing the cloning of human beings. However, what is coming is so powerful that even the considerations for the cloning of human beings are dying down, because we have experienced human cloning all of our lives through identical twins where one is a clone of the other. So, cloning is merely replication of what is already in nature, whereas genetic engineering is the creation of something that has never been in nature. The whole idea of cloning has become less important because of how revolutionary genetic engineering has become. For example, in China this year, they will be cloning some giant pandas. That is a very interesting use of cloning,

because giant pandas are becoming close to extinction. In the US this year, there will be cloning of an already extinct species and this will raise many questions regarding the cloning of the dead.

The dilemma is that the same technology that will eventually treat and eliminate horrible diseases can also be used for cosmetic enhancements. That aspect falls under the long shadow of eugenics. In connection with genetics and the changing of genetic codes for cosmetic enhancements, one bio-geneticist said, "Hitler had the idea, but he did not have the science." Now the science exists. GT (genetic technology) is going to be mankind's preoccupation and obsession in the early decades of the 21st century and the world is not prepared for that.

At least twice before in world history, there have been confrontations between religion and science, firstly with Galileo and then with Darwin. The world was not ready for Galileo. He had to recant his proof that the earth went around the sun and not the other way and he lived the last years of his life under house arrest in his villa outside of Florence. Darwin completed his manuscript to *On the Origin of Species* and he knew the world was not ready for what he had to say. So he kept it on a shelf for 20 years before he published it and still the world was not ready. We have not yet dealt with GT and we will have to deal with it, but the question is whether world is ready for this new technology? I do not think the world is ready today. There needs to be much more discussion and preparation.

Q:

I attended a presentation in Japan last year, which was about the development of robots with artificial intelligence that will have the ability to evolve until they eventually have the same intelligence, or higher, than humans. Do you think this is just science fiction or is it a real possibility?

A:

With the mapping of the human genome, scientists say they have an instruction book on our physicality and on what we are made of physically. That book is going to expand and scientists will eventually know everything about our bodies. The mystery will be gone completely. However, the scientists will never have an instruction book on our

souls, which is what I believe we are going to hold on to and celebrate. Artificial intelligence is an oxymoron, because intelligence is not artificial. So, while presumably some sort of artificial intelligence will be developed to serve mankind, the possibility of robots taking over is remote. Moreover, robots do not have souls, and that is important. Someone once said, "You will know we have done it with robots when we can make machines that are proud of us." I do not think that will happen, but because the possibility is there, there is increasing speculation, especially in the form of science fiction.

Q:

You noted that the world is becoming one economically. Therefore, you are implying that politically or otherwise the world is not becoming one. There were days when the nation-state and the national economy were the same, but now there is a world economy but national governments. How do you visualize this contradiction being resolved in the future?

A:

For some time now it has been apparent that economic considerations have overwhelmed political considerations. In order to understand anything that is going on in the world today, one has to look at the economic implications. I am a neo-economic determinist. Economics are running things now, but I do not think there is even a remote possibility that there will be such a thing as a world government. People do not want that. Like nature, the world is self-organizing. Nature is brilliantly self-organized and therefore is a great model to follow, but it is also self-correcting. For that reason, when we interfere with the self-organization of the global economy, we preclude its self-correction. So I think in a self-organized global economy the world will be primarily run by economic considerations. However, we will hold on to political, social and cultural institutions, such as the British monarchy, for a long time, but long since economic considerations have overwhelmed political considerations.

Q:

One possible reason for the current US economic recession is the US's hasty movement away from traditional industry to a heavy dependence on IT and high technology.

What is your view of this analysis?

A:

The US did not move away from traditional industry. One of the most constant economic indices in the US is the manufacturing percentage of GDP at 23%. This varies very little. The difference is that that 23% is achieved with fewer and fewer people each year because of the increasing technology to do it with fewer people. The US is now manufacturing and exporting far more than ever before, but the difference is that the number of people in manufacturing has fallen from 65% to 13%. The US is not moving out of manufacturing, people are moving out of manufacturing. In the meantime, the economy is $6 trillion in size and growing which means that that 23% is getting bigger while staying constant as a percentage of GDP.

While that 23% remains constant despite moving out of some industries, the new technologies are creating different companies that previously never existed. Historically, the new economic period at first contributes to and helps the previous period. For example, when the industrial revolution began, the first thing it did was help improve agriculture. And when the information period came along that helped improve the industrial period. Maybe the biological period will help improve the information period. That is how history progresses.