Dean: Now, President Oh Yeon Cheon and Mr. Bill Gates have arrived, please welcome them with a big applaud. Please take a seat. Before we start I will make an announcement. My name is Woo il Lee, dean of college of engineering, and I am very pleased to be here with Mr. Bill Gates and with you.

Well, first, I'd like to apologize for my appearance like this; honestly, I am excited to see Mr. Bill Gates face to face . So I try to practice handshake with him. But the problem was maybe I did too much to end up like this. Well, I am not sure if I have to introduce Mr. Bill Gates to you. He is so famous. He is probably one of the most successful entrepreneurs in history.

He is known for Microsoft, his passion for software design, he is a computer guru, but most importantly, he is a great humanist with warm heart, caring for people in need.

On top of all that, he loves to talk to young people like you sitting here. So please welcome Bill Gates again. Well, whenever we invite distinguished guests, we always check the protocols in every detail. The first thing we do is to check how our guest wants to be addressed. In this case, it was a little bit more special, because he held so many important titles in his long successful career, president and chairman and many other titles.

So we naturally asked him, and the response was very simple. It was just simply Bill. So you can call him Bill when you ask questions.

Bill: Thanks!

Dean: And I believe this is how he wants this section to be proceeded. No fills, right down to the point and most importantly in a friendly atmosphere and in a comfortable manner. So my role as a moderator, one more thing to add, is to set the table. To break the ice, I prepared some questions myself out of personal interest, but the interest I am sure very shared by most of the audience. So let me seat. Are you ready? OK.

Bill: Yes.

Dean: It is my pleasure to welcome you in Seoul National University. And the enthusiasm of our faculty members and students showed for this session is phenomenal like you witnessed here and along the way to here.

We are honored to have the opportunity to listen to your vision on the future of innovation, and more than hopeful work you said, through your far reaching philanthropic effort in the Bill and Malinda foundation are bringing transformative changes in enhancing healthcare, reducing poverty and expanding educational opportunities.

Since leaving Microsoft, you have been dedicating your time in finding innovative solutions for some of the world, say, the toughest challenges in the areas such as agriculture, energy and infectious diseases.

So I am sure your visit to Korea is related to one of multiple of these issues. So could you please share with us the purpose of your visit to Korea briefly?

Bill: Well, I am excited to be here, I haven't actually been to Korea for five years, so the last

time I was here was, the last year when I was working full time as a part of Microsoft.

And of course, Microsoft has brought me here a number of times, because of a lot of key partners, LG, Samsung, so many key partners who helped make personal computing reality and it was such a good job making the internet low cost, available to everyone.

So that is not the primary focus this time. This time, my focus is more related to the foundation work, and the work of a start-up company looking at nuclear energy called Terapower. And for the foundation, as you mentioned the focus is on global help. The global help and the agriculture.

You know, the innovation in general has a way of, sometimes going to the people who are the best off. So we have to work extra hard to think about what type of innovation we need for those who are the worst off, the poorest.

You know, many of those are farmers with small plots of land, and many of those people are still experiencing conditions that we almost take for granted is not happening.

For example, if you are a baby born in a poor country, you have a fifty times greater chance of dying than you do in a rich country. So we got to be able to take science, whether it's, health science, or digital tools and improve that.

And I am here to connect with the great engineering and scientists talents of the country.

I will get to talk to the president about her ambitious agenda for the country and see what projects and health, agriculture and energy, might be in alignment, so it's a great chance to understand, what innovation here matches up my new full-time work.

Dean: Maybe students can ask more about your answer. Well, my major question is about education, say, a creative capital. Your visit comes at the very important time for both Seoul National University and the nation of Korea.

And let me explain why. 40 years ago, Korea was the poorest country in the world, by mid-1990s, somehow we were able to pull ourselves out of the poverty by becoming a manufacture power.

However, as we entered the 21st century, there was a deep realization that all formula for past success may not work anymore for the future.

In order to become, say, world class economy, we may need a different set of skills. So we have been pretty good at producing something.

However, in the future it is the ability to create something that will foster innovations.

So we have to move from produce to create.

We are in a very serious phase of transition.

And actually we have set a new government for about two months, and our president's top

priority is on so-called creative economy.

So the ability of super-creativity is one of the toughest challenges for education institution like us as well as the biggest opportunity for us.

Although Korea is praised to have one of the brightest students worldwide, at the same time, many people advise us that we need a culture that judges success on a wide range of criteria beyond just test scores and we need to have more free-thinking creative graduate students.

So, dropping out of the prestigious school like Harvard could be almost unthinkable for most Koreans, especially for Korean parents, I believe, so could you please share with us the reasons behind why you dropped out of Harvard and more importantly, do you believe that creativity can be taught or learned at school?

Bill: That is a great question. My parents, at first weren't super happy when I was dropping out, and they've been super supportive in terms of paying for me to go to private high-school that was good, and then also paying for my tuition at Harvard.

And I've been there a couple of years when the opportunity to create Microsoft came alone.

It was very unique opportunity.

You know the microprocessor that is putting the computer on a chip was changing the rules of a game in a way that if you've been around in the computer industry then you might miss it, because you would always think of computers being expensive.

But they were changing to be very inexpensive, and therefore, their character was changing. It was not just numeric difference; it was a qualitative difference in terms of becoming a personal tool.

And so amazingly, companies like IBM, or even WANG or digital who had been innovators didn't see where computing was going.

And because my friend Paul Allen and I did, and we wanted to be the first one to get out there and write Microsoft.

So I didn't have time to finish my degree. So I dropped out and started Microsoft. You know, I don't recommend that path for other people. You know, it is possible that it is the right thing to do, but it is better for it to be the exception than the rule.

You know, in most cases, there is nothing so urgent that needs to get done.

In terms of the present's message about the opportunity Korea has to make this huge contribution that I completely agree with that.

It is a phenomenal story that really only one country gone from a significant aid recipient to now turning around and starting to be quite a generous aid donor.

I get to meet with the National Assembly in tomorrow morning I'll talk little bit about the

story and encourage them to be even more aggressively, to upgrade levels of generosity.

In some ways, when you're following other models of what other countries have done it is easier.

So following what Japan did or something the United States did, that was the right path.

Now clearly, both the companies here and institutions here have gotten to the world class level and there really in a sense no one to follow.

You want to innovate agriculture, science, any type of energy, including nuclear energy, you have to be looking at the absolute frontiers.

Just…… be able to make whatever somebody else made it at a slightly better price, which is huge value, and you don't ever want to forget how to do that.

The U.S. has, this big thing now that we need to get back into the manufacturing because you don't have that hands-on understanding, you sometimes will miss where you can do the innovation.

So you don't want to give up that current state, but you do want to have this ability to take risk and innovate.

And we are certainly seeing it on the internet there's been so many new things that were tried, first in Korea you got the internet because you guys got the price down and penetration up, you know, that is an incredible thing.

And many of your leading companies are very innovative.

You know, I think creativity comes partly from having a breath of knowledge.

You don't want just to learn one area of study, you know, for me the thing that was always fun was to know a bit about, you know, chemistry, physics, biology, math, in computer science, you don't have to know that much math.

However, the more math you know, the better off it is.

So very broad and And I am always thinking through, and trying to understand what are the problems that need to be solved.

For me even understanding what is practical to do in a poor country, I have to make 3 or 4 trips in a year out and see which of these ideas we thought really work in a poor countries and tell which ones are really working, which ones need to be changed.

You can't always know in advanced. I was thinking being young is a great thing to be creative; because you do have this way of looking at things from scratch, and so much of science today are ability to model things, ability to look at large amounts of data. People come of age, taking that for granted, will be able to do things that people whose education was even just 10 years ago, they don't have that idea that we should be looking into all this

data and finding patterns in these very rich ways.

In the same way that mathematics was sort of the handmaiden of all the sciences traditionally, today, computer science things in particularly data-driven learning things are becoming fairly key things across many fields …, and it is interesting, if you are an undergraduate student, all the things you should study are almost too many.

One thing that helped me a lot was continuing to study things, even after I left the full-time educational environment.

And of course today, with the resources that are all online, the ability to watch lectures many where in the world, stay in touch, if you're confused about something, being able to get straightened out about it, it is unbelievable time to maintain that ongoing curiosity throughout your 20s and 30s and even later.

You know the fact that people do along the test scores, that is a necessary but not sufficient part of the equation.

Dean: Okay, thank you very much. And here is my last question, which is on entrepreneurship and innovation.

In the 2009 annual letter at the foundation, you wrote about the importance of the innovation, and how we can make the difference with the bleak future, and the bright one.

Well, I am sure you have faced many challenges while you were at Microsoft, and still, you do as you moved forward into finding solutions today, say, world toughest challenges.

So could you please share with us how you tackle this challenges and how the innovation worked in the process?

Bill: Well, when Microsoft got started, the idea was that software was magic, and most people didn't care much about software. They didn't realize how important software was. And the hardware was going to be cheap: the microprocessor, the desk, the communications through optic fiber, and the only limiting factor was the quality of software.

And in the Software, in terms of how let you navigate data, the entire idea of the user interface, you know the mouse, touch, hand-writing, speech, was going to be this very critical thing that we had to make machines that didn't require that much learning to be able to work with them.

The computers, before Microsoft came along, were only for professionals, extremely complex, and that was okay because not many people needed to work with them.

So we had the idea of personal computing, user interface, we got to try so many different things and the nice thing is that you get a lot of feedback from people using the product like what they like, or don't like.

If you can get into that situation, where you have tested set of users who are telling you what is wrong, and you understand fundamentally what the big leaps are going to be, you know,

that is the idea, lots of immediate feedback, but then look into where there could be a paradigm shift.

A big paradigm shift on Microsoft was to move to graphical interface.
And you know, today everybody takes it for granted that your screen is just the arbitrary display, but in those days, literally until 1995, that way of doing things was so slow and so much more complicated than just putting up a text on the screen.

Many people questioned whether it would ever be the right thing, and a lot of Microsoft success came from totally betting the company on this graphical face.

And then the internet came along, many people, you know, that was a real change, in terms of how you thought about the key applications.

And we further strengthened the company by actually revolutionizing ourselves and saying okay we're going to build around the internet.

You know, now, the frontiers are even more interesting. Will it be speech, will it be pen, will these devices move around, will there be lots of robots, how do we think about machine learning, where the machine, sell a lot of experiences to think about how to work in more intelligent way, so the frontiers are still out there.

You know, for the individual person though, knowing these scenarios, what you are trying to get done, why it is not possible, I think it is what the, what is very key and always applying in your curiosity, why hasn't that been done? Why it is so hard? Why hasn't anybody done things that way? If you are relentless about that, you'll always find the solution.

Dean: Great, so please don't forget that I was one of the first customers of your, say, PC Dos or MS-DOS .

Bill: Great, right.

Dean: That was PC DOS I think when I was at the graduate school.

Bill: Excellent, yeah.

Dean: Okay, well, So, I think you have to take some questions from the audience?
So we, this session is supposed to last for about 50 minutes. So we have little bit over 30 minutes.
So we have to be rather strict. So when you ask questions, please be concise, so that we can hear more from him.
Okay? Thank you, so any questions?

Yu Jin ho: I am Yu Jin ho, a junior student of nuclear engineer department, and I was wondering what you expect in corporation with Korea about TWR and how do you think about the future of nuclear power industry?

Bill: I think energy is fundamental.

If you look at, you know, why the world has made so much progresses for the last several hundred years, it was quite phenomenal.

One of the key breakthroughs was the availability of energy.

My favorite sort of science authors writes very eloquently about the energy generations

We have gone through how that was central to the innovations taken place. And so we definitely need to constantly make energy cheaper.

Korea has done a good job.

Actually, the cost of energy here is quite low compared to many other countries.

And part of that is what you've done in the nuclear field.

I think as we look forward, the energy we want has to be environmentally friendly, that is no Co2 emission or if it emits Co2 someway, that is captured and sequestered of no net CO2 emission, and has to be lower cost than energy today, because if we think about poor people, their desire to buy fertilizer or travel or have lightor heat, a lot of the basic needs of those in poverty costs as much as whatever energy costs.

And for them today, particularly when they don't have a grid that the energy is unreliable , they have to transport diesel fuel It's quite a tough situation. And so any, I think we have to back lots of different energy innovators.

You know, the different technologies all have challenges.

Things like wind and solar could be very important in the future, they're fairly small today, but they are intermittent that they are only available in certain locations.

So issues like storage and very large low cost storage are very difficult there.

In the case of nuclear, there are many challenges.

You know, we have to bring cost down. We have to make sure people feel comfortable about the safety. We have to reduce the waste that is created, for whatever waste we do create, we need to have clear solutions, so I think it is one of the areas that we should invest in new innovation.

And I think there hasn't been enough innovation in that area.

In fact, in the 1970s and 1980s, things really were not invested in in a very big way.

I think because of digital simulation, our opportunity to look at new approaches is more exciting today than ever before, so there is a company I am involved with called Terapower that has a new approach. And it is at the very beginning of dialogue with companies around the world including as part of this trip, some here in Korea, about what are their ideas about the future of nuclear and what are our ideas, , so there are ways we can bring these together

and create a generation even beyond what's been built today. Today's called third generation. The idea would be a fourth generation, whose safety and all waste characteristics and all the key characteristics would be much better than anything we have today.

You know, so I'm a believer there's an opportunity there, we'll have to see how that comes together. But we need better energy technologies; we cannot just simply keep burning coal and natural gas, which is the primary way, particularly for the new generation that's been installed in places like India and China, which are adding so many power plants.

So because I believe the climate change is a huge problem, that's one of the things we have to deal with in terms of baseband reliable power that emits no CO2. Nuclear could fit in there if we manage to have the breakthrough path that reduces the challenges.

Dean: So you still see nuclear power as the only alternative we have for the energy for the time being?

Bill: No, we need to pursue any, you know, we need hundreds of companies like Terapower, which have, you know, wild new idea that is fantastic.

And we should play those out, you know, those company should find partners, they should play them, you know, nobody knows the single answer to this.

And there are even approaches, one of those is called solar chemical, very few people are working on right now.

That is where you take natural sunlight and you cause a chemical reaction that creates some sort of hydro carbon.

Then I think about that approach is that it has its own storage solution built in, because it actually creates a chemical liquid, say like gasoline that has a very high energy density and has transportability.

So you get around the intermittency storage type problems by doing it that way, so I believe that we should pursue all these approaches, because if we do not change our energy system to be both lower cost and none CO2, you know the problems are going to get into, although there are some range of uncertainty, the potential problems are quite severe and the people who will suffer the most from that are the poor farmers, who do not have storage, they do not have draught systems crops, they do not have irrigation. You know, they who caused the problem not at all, they weren't involved in the greenhouse CO2 emission, they are the ones who will suffer, so that is, you know deeply unjust, if that is the way that ends up.

Dean: Okay, alright.

Student: My name is Shin BooGyong and I am majoring in animal biotechnology, I heard that Melinda and Bill Gates foundation, biologically engineer vitamin A, as a way to help children in Africa and I was wondering if the decision and also the consideration, the development of bio technology.

Bill: Yeah, the foundation is very involved in different aspects of bio technology, bio

technology for health and bio technology for agriculture and you know for us, we are the biggest investor in new vaccine, things like malaria vaccine, tuberculosis vaccine, we are the second biggest on AIDS vaccine, the US government's actually the biggest investor in that, in terms of crops, you know, we need far more productivity, we need crops that can deal with draught, that require less fertilizer, you know a lot of need characteristics that need to be created, including disease resistance.

One that is particularly important that you mentioned is putting vitamins, the micro-nutrients, which are actually into the crops. A lot of African children have huge micro nutrition deficiencies, vitamin A, iron and quite a few different things and we don't have any really easy way to get that into their diet, with iodine, we were able to do that with salt, so most people actually get iodized enhanced salt, and that solves a lot of the problems you get if you don't have enough iodine, but with these other nutrients the easiest way to do it would be to put it into their staple crops, so to put it into their grains, or other things they eat, so we did for example a sweet potato that has arm-fortification, we have a rice that we fund that actually has vitamin A increase, so called golden rice.

That is a very good thing. Now what that means is that some of these new crops are created through techniques of genetic engineering and so you get all the questions people have about, well will they be low cost for the poor farmers, will there be any side effects, how will you make sure, the same way we test medicines to make sure they don't have any negative effects, how are you going to test and make sure these things are okay.

You get all those problems, but we think those problems are very worth taking on, because the benefits of having these much better crops, literally the kind of micro-nutrition deficiency that African children have means sort of about 30 percent of them, their brains have never fully developed. So no matter how much is put into education, they simply cannot achieve their potential and that is, that's awful both for the individual and for the country. So we are looking for innovations having to do with nutrition any way possible including these magic seeds.

Professor: Hi, hi Bill. I am a professor in a school of electrical and computer engineering, actually you are my old boss, because I worked for Microsoft research at Redmon, as a visiting site in the past and it is a great honor to have you here. Can you share your thoughts on what are the strong and the weak points of Korean software industry in your experiences?

Bill: Well, the software industry isn't country-by-country, quite as much it used to be. I mean all companies that are started originally in one country, but it is actually pretty amazing today how, say for somebody like Microsoft, development centers are incredibly world-wide. Particularly as we bought different companies, we've grown all our groups in Asia quite a bit, you can't really say, that it is just a US based software company.

Korea has benefited from the fact that internet penetration here happened very early. So the idea getting your TV shows, having this integration of media, bringing a way of looking at the interactive games, there's a lot of great innovation on those issues here in Korea.

Now there is always a question, what does that always mean, does that mean those companies go up to be global champions? Or does it mean they stay domestic champions? Or does it mean that they get bought up this part of different company or the worst case is they've come

up with a great idea but they are not the ones who takes it to the world but there, it's simply a model, you know, all of these things are contribution and so until the last decade, there has been a lot of very innovative stuff that's happened in Korea.

It is the small enough of percent of the world market though. You want to think about, OK, how do you get it out to other places, particularly, you know, as although Korea has been out on the front in the internet penetration. Now other countries really are catching up. It is not totally unique. Even in China today, you know, China has more internet users than the US has people, so, it's going to be hard for us to ever match them in terms of internet users ever again. Now for the US it is weird because we are used to our customers being the most demanding customers, and that helps fuel things. Now in many areas, both IT and certainly in energy, the biggest customer base and at least new activities are going to be outside of the US, which is interesting.

So, you know, for software, the only other model besides the U.S model which is very venture-capital driven, small, and high-risk start-up driven, the only other model has been the Indian model, which is very services-oriented. And that's been extremely successful for them. Interestingly, in terms of products, they haven't done as well. The other model, you could say, third model is China where, because of a variety of reasons, their internet companies has not been as subject to international competition, so their innovation is in the China market. So far, basically none of those companies have moved outside from China in any broad way, so it is the just one-way type of situation. So I would say, if whatever software innovation you have, you have to think about how eventually you want to go global. You can test it out in a local market, but you'll have to have some way to have the highest impact, you know, what you're going to do about the US, China, Japanese, the other very big markets. And so far, that hasn't been easily tackled.

Eunhyun Ji: I appreciate that point of view very much[incomprehensive]. OK. Thank you very much and I am Eunhyun Ji, majoring in science biology, I want to ask you how do you think of personal[ized] genomic service, and because it is very well received the attention about 20 second and me you know[incomprehensible], that service, and, I think it is very helpful about the worldwide human health, and I think that is what is your interest. OK. Thank you.

Bill: Well, genomics is changing health sciences in very dramatic. And it is also changing agricultural science. You know, agricultural side, we are very lucky that plants have the same genetic structure as humans. Because all these great instrumentations these complete genomics, you know, these great machines are designed because the human health market is so gigantic. And it's just a windfall to people who worry about plant productivity, plant disease. where we can just take that and do the same type of work.

A few weeks ago, I was down meeting with the BGR which is the Chinese group that has more sequencing machines than any other place in the world, and it's pretty phenomenal how the cost is coming down and how the deep insights about things like cancer, you know, how are they different cancers, you know, how would have they cost, where do we interferewith them, in terms of personal genome, I haven't chosen to have my own genome sequence, Idon't have an interest in them.

I have to say though, you know, if I got some disease like a cancer, then I would definitely do

that because now we're able to take what look like the same cancer, but by looking at the genetic profile, we understand what sort of treatment ought to be applied based on the genetics, and certain drug machines work very well, for one type of genetic profile, and other types of drugs work for another genetic profile.

So that type of tiding of the medicine to the greater genetic specifics already that's saved quite a few lives. Obviously our ability to understand deep biology, so-called system's biology, and literally understand the circuitry of the immune system,. this genomic data, not just the static sequencing of the gene, but also all the other things, where you are looking at the dynamic expressions that protein make up, those things, it is as we really dig into those, that we're going to have fundamental understandings of how all these things work.

And it is amazing how little we know today. Even in the area of the infectious diseases we work on, you know, take a disease like tuberculosis , it is not well known, how you acquire it and how it goes latent, it is not well-known, how it goes from latent to active. You know, even the very basic things, and these tools, you know, within the next, say, ten years, you'll have answers to those questions which will allow us to work on much better basis. You know, the AIDS vaccine is a a very tough problem, we have had to discover so much about immunology, and using tools ofgenetics, even make as much progresses we have, which I think will eventually give us a solution.

So, you know, I am a big believer in the genome revolution, I don't think yet, having your individual genome done if your health has that much benefit, you know, mostly it will tell you to worry about some things that aren't told that are actionable.

Over time though, as the price comes down, it will start to be, certainly for anybody who's got any health issue, it will be the standard practice, and you know, it is phenomenal, as yet it's halted in many medicines (37:56) but we're just at the beginning.

Ken Gang: Hi Bill, I am Ken Gang, a professor in the medicine. Actually I am in a nuclear medicine position, and I am in just about the energy. And what do you think about the future about the geothermal energies and the earth itself is a huge nuclear power plant. If you deep dig it enough maybe fifteen kilometers, if you invent a new way of digging technology, such as high-touches, evaporating rocks, not just using the drill?

Bill: Yeah, the number of energy sources that you can potentially go after are quite large. You've got tidal energy, you've got not just wind on shore or off shore, you have high wind where, if you go after 3 or 4 thousand feet, you can get jet stream type wind, and geothermal, they are on the mix.

You know, one of my other than Smill, who's the best energy author, who has written so many different books, one of best books is David MacKay's book, you know, "Sustainable Energy: without the hot air", where he really goes into and talk about where we use energy, and where the potential source of energy is.

And geothermal actually can be a part of the mix. It turns out the heat plugs throughout the crust through the earth is very finite, so typically when you go into the geothermal, you're actually creating a cold spot. That is, you are mining the heat in the way that is not, it is not going to sustain itself.

There are some hot spots, they are exception. The places like Hawaii, Yellow stone, or there's actually quite a few around the world. Those places, well, Iceland, being the extreme case, are very lucky. They, in a local area, could probably get 100% energy from geothermal. But at least the way Mackay does the calculations, geothermal contribution to the overall global energy equation at best would be under 5 percent or so.

So, it belongs in the mix, particularly where you have the geology that makes it very attractive, it is based slow[40:12] energy that it is not subject to the wind blowing or the sun shining, it has got a little bit of challenges in terms of, you don't want to be polluting water while you're doing in it, so that is tricky, all probably solvable, there's been some concern about causing earthquakes that you're lubercrating things [40:27], and I doubt that's going to be a huge problem to stop it, and it is something that has to be answered.

In Switzerland, people were working on, it actually got stopped because they caused a farily small quake, and so there's something should be. You know, it will be part of the mix, but it is not one of these giant things like solar thermal or solar chemical, or solar PV,or nuclear, where you could literally provide close to a 100% of global planetary needs through that particular source.

Heeyoon Gwon: Thank you, my name is Heeyoon Kwon, from graduate school of international studies, I am focusing my studies on Latin America, but today, my question is, hands down on the personal level. I want to ask you what you do to recover when you feel disoriented or unmotivated if you ever do that.

Bill: Well, I don't often feel unmotivated. I've been incredibly lucky, my first career at Microsoft was, you know, totally engaging, and although there were plenty of setbacks but overall, very successful. And now we're working on the foundation, because we worked on the broad set of crops, diseases, and we do some work in education as well, you know, always making progress on some area. You know, there are things that are negative. If you look right now at the budgets of a lot of rich countries, not as much in Korea, but in almost every other well-off country, the budgets are very tight. And it is leading to many of these countries actually cutting their aid that is the money that they make available to help the poorest in the world. And it is very unfortunate, because when they make these cuts, you buy less vaccines, you buy less seeds, you know, Japan has been cutting a lot, people, you know, Germany cut, France cut, you know, and Spain, a lot of different places. Few places have been increasing, U.K., Australia, Korea, and so unbalance, it might work out.

But something like that is a little negative and we just have to deal with it. Certainly, when you work in scientific areas, you hit dead ends of things that don't work, you know, we worked on a Malaria vaccine, and although it was effective, it was only partially effective, so now we're actually having to go back and do a new vaccine. The AIDS vaccine field, we have, there's a lot of excitement, but, you know, as yet, even the contracts on some of the tests are not good enough.

So, so many things, you have to be fairly patient. And particularly where there's governments involved, whether they are richer government or the governments in the poor countries, so often through corruption in mismanagement, can take, you know, for example, not get vaccines delivered out to the children.

So sometimes when I visit Africa, what I see is disorganization, or I see, where corruptions are holding things back, that is not the overall picture, but certainly there are programs and places, where that is a problem despite the overall positive trend.

You know, for me I read a lot of books, watch DVDs, play tennis, play bridge, you know, talk to my childrenwho are quite young, and aren't worried about the same problems I'm worried about, you know, so overall, it is pretty easy to be optimistic and enjoy all the things I get to do.

Dean: Alright.

Minhee: Hi, my name is Minhee. And I'm from Veterinary student. My question is I am interested in starting-up company, and also making financial profit and also helping society. From my interest, I am very interested in animal rights, so can you give me some advice for that?

Bill: Well, in terms of how you give back to society, you know, just starting a company that employs people and comes up with good a product that that alone serves a very positive social role. well, and then you have to decide, is it through the actions that the company gives back or you take whatever resource you've got through the work, and use that to give back to the another area. You know, it is always good to pick a cause, and because you've already picked the cause, it is great. you can always learn and, OK, what do, which countries have handled this well, you know, how did that work, or what sort of non-profit groups are there already out there, how you get other people interested in this issue, and what is it that might draw them in, you know, what does it take in terms of financial resources, is to create a shelter, create the rules or… it is not the area I know very well, but it is a, it is definitely a worthy area.

So I think it is great when people pick, because some people want to do, want to give back, they have so many things to pick from, the very fact that there are so many things to pick from, it kind of makes them hesitate, because, you know, say you pick vaccination, or you pick helping farmers, but whatever it is, you may not pick the perfect thing, but in a sense, that is okay, you know, no one person is going to get to do all this things, and that is the beauty of, you know, having the diversity, and having through the internet everybody can find who pick something similar, you know, I doubt, you know, I don't think there is a profit model, working in the animal rights area, but where you can have your cake and eat it too, you know, but that's a kind of thing you should definitely explore.

Dean: right, thank you, well, we have about 3 minutes left, so this may be, say, the last question. So, yeah, with yellow jacket.

Doohee Lee: Hello, my name is Doohee Lee and I am a student of computer science. And I've made so many IT services for this university. Non-official lecture evaluation system, SNU-EV.com, and 99% percent of students use my service. And professors hate my service. And I've made so many IT services, like SNU-life, and now I want to make a new company. And I have to take courses a lot. So do I have to keep taking the courses a lot now?

Bill: If your company, you know, if you know you are going to succeed in doing the

company, then of course the courses are not that important, you know, there's a view that if you do the course and finish your degree, then in a sense, you're always employable, whereas if you drop out, don't get a degree, then if your company does not go well, you know. In the case of Harvard, I was on leave, I could have gone back any time, you know, I don't know if you can just go on leave, and that is a sort of best of all, you can go, and if your company succeeds, maybe you just do that, and otherwise, you should go back.

But I don't know, I mean, unless the thing you are trying to do the company for you are trying to do unless that opportunity is going to disappear, there's a lot to be said to stay around, because university is a very nice time, in terms of you know, hanging out with other students, and it is very hard, once you go out to the work world, it is very rare to get back into this type of environment where you're with so many other people thinking about different ideas. So I think you have both, you have good choices. I think you get along either way. You've already created services like that. You've got some very marketable talents.

Dean: Okay, well, I'm sure you have so many other questions, but unfortunately, he is also on a very tight schedule this time, so maybe next time here, he visits and has more free time to discuss about many different issues. So, here this will conclude the session, and please join me in thanking Bill for his time and effort.

Bill: Thank you, have fun.