

At UNU Commencement, July 3, 2013

Kiyoshi Kurokawa, MD

GOOD afternoon, distinguished guests, friends, ladies and gentlemen and of course outgoing graduates, class of 2013.

I want to congratulate you on having completed this phase of your studies, at the prestigious United Nations University. I am sure your parents and families are all pleased to see you here today.

Quite some time ago, after several years of clinical training, I went to the United States of America, where I spent years in academic institutions – teaching, doing research and being involved in patient care as a physician. There, as an ‘independent individual’, I built a career that was outside the sphere of ordinary Japanese organizations. During that time, I was able to observe Japan from a distance. This allowed me to see my country more clearly, and I began to discover both good and bad aspects that I had not considered while living in Japan. I cared deeply about this country, of course, because after all I am Japanese. After fifteen years in the US, in an unexpected turn of events, I returned to Japan. Since then, I have been the recipient of many diverse opportunities. My perspective throughout has been to see “Japan as a member of the world community,” and I have considered my responsibilities and taken action based on this principle. This has led me to sometimes be outspoken about Japanese society and universities.

I have been loosely associated with UNU since the time I was Vice-President, then President of Science Council of Japan, as I saw great need to connect the UNU to the science community of Japan -- such as through the U Thant Distinguished Lecture Series -- and I was given various occasions to speak at seminars and conferences held here.

Some of you may know that I served as the Chairman of the National Diet of Japan Fukushima Nuclear Accident Independent Investigation Commission. And some of you may have wondered, “What kind of person is this Chairman?” Well, you can find out the answer to that simply by Googling me.

I would like to express my gratitude to Rector Honorable David Malone, Prof Takeuchi and others who have invited me to speak here today.

Today I want to talk about three words. Three words that have shaped our past and that I believe will shape your future:

- Disruption;

- Interconnectedness; and
- Experience

Firstly, disruption.

Disruption is happening constantly. The world that we take for granted is completely different from the world as it was even a few years ago. And, as we know, the world faces numerous huge challenges, many of them down to the explosion of the human population. It took around ten thousand years for the world population to reach 500 million 500 years ago or year 1500, then to 1 billion people, in 1800, or doubling in 300 years. Since then, thanks to major advances in science and technology and the industrial revolution, the population has exploded. We are healthier and live longer. During the 20th century alone, the population of the world grew from 1.6 billion to 6.4 billion Four times increase. Today, the world is home to 7 billion people. And, according to some estimates, the global population is expected to reach between 8 and 11 billion by 2050. All these people have needs, Water, Food, Energy, Shelter.

As Thomas Friedman described in the title of his book of 2005, the world is *Hot, Flat, and Crowded*. Population growth will contribute to creating new challenges for humans including conflicts and climate change, and old solutions will no longer suffice. **But, as history has proven, it is DISRUPTION that offers us innovation or creation of new social values. It is DISRUPTION that offers us solutions. And DISRUPTION can only happen when we think outside the box and challenge the accepted norms.**

Disruptive solutions and technologies that we take for granted today have only been known to humankind for a very short time. One disruptive technology that ushered in the Renaissance in Europe was Gutenberg's printing press. Printing Bibles by Gutenberg of mid-15th Century, initially less than 100 lines in some cases, led to the Religious Revolution 100 years later, and opened-up Europe from the Dark Ages. Access to knowledge drives human to seek the truth and question the authority of the time. In recent years, the internet has resulted in a paradigm shift and opened up whole new possibilities to humanity, just as the printing press in its day was the technology that speeded up the dissemination of knowledge. The internet is a source of knowledge, enabling individuals to pursue any area of their interest, seeking for truth, questioning authority

As Marshall McLuhan, the author of *The Gutenberg Galaxy*, stated:

"Technologies are not simply inventions which people employ but are the means by which people are re-invented."

The printing press helped establish a community of scientists who could easily communicate their discoveries through scholarly journals, helping to bring on the scientific revolution, and it was an important step towards the democratization of knowledge, enlightening the European continent and affecting the trajectory of the history of the entire world.

Many technologies and ideas of major impact of our life that we now take for granted came into existence only in the last 100 years or so. All of you have come here from places many thousands of miles away, and you took an airplane to get here. But powered, controlled flight by humans was only first achieved by the Wright brothers in 1904, 110 years ago. Their first flight only lasted 10 seconds and covered only 100 meters. Around, ten years later and World War One starts and marks advances in aviation and military technology with aircraft being used in combat. And nowadays we think nothing of stepping onto a huge commercial airliner and flying between continents.

Another development that happened in the recent past but that has affected all of us around the world, and Japan in particular, is Einstein's mass-energy equivalence formula: $E=mc^2$. Einstein first proposed the formula in 1905, major breakthrough in modern physics and our understanding of the Universe, and it was used in the understanding of nuclear fission reactions which is used in first in nuclear weapons, then nuclear power. Forty years after the formula was proposed, two Atomic bombs were dropped on Japan – one on Hiroshima and one on Nagasaki. This was the first, and hopefully the last time that nuclear weapons were used in war.

Twenty years after that, Japan commissioned its first nuclear reactor. And now, the nuclear issue is affecting us all in Japan once again. As I mentioned, I was the Chairman of the National Diet of Japan Fukushima Nuclear Accident Independent Investigation Commission. It was my job to lead the team that reported to the National Diet, the Legislative Arm of our Government consisting of our elected public officials, and to the world *why* the Fukushima nuclear disaster happened. This was a big responsibility, and I felt it was important not to point fingers and allocate blame, but to present our findings openly and transparently and to be honest. We must share our lessons with the world so that we could develop better ways to utilize nuclear energy. Learning from failure has to be the essence of responsibility in this global and well-connected global world. In a sense, this was a type of disruption or innovation of governance of the Government of Japan.

This Independent Investigation Commission was the first of this kind in the history of modern time democratic Japan. Many Western leaders I met said to me 'First time in history? Unbelievable!!' Actually, last year I – and of course my team – was honored by the American Association for the Advancement of Science with their Scientific Freedom and Responsibility Award. The AAAS said that they had chosen me for the award for "challenging some of the most ingrained conventions of Japanese

governance and society.” Further, Foreign Policy magazine chose me as one of the ‘100 Top Global Thinkers of 2012’. I credit my team for this accolade, too. The reason that Foreign Policy said they chose me for the list was something that really moved me. It was: “For daring to tell a complacent country that groupthink can kill”. And this is something that I have long believed to be an important habit -- challenging received wisdom. And to have a sense of obligation to dissent. It is only by doing this and, importantly, encouraging young people to do this that we will have disruption and progress. This is how change happens. In Japan, there is a saying that I’m sure you have heard: “The nail that sticks out gets hammered down.” We are told to conform. To obey. To follow the crowd.

This has never been the way to progress. And especially in today’s transparent and interconnected world, this approach can only lead to paralysis and failure. If you want to progress and succeed, I say to you: “Be the nail that sticks out!” Necessity is the mother of invention. A crisis can be an opportunity, as it often leads to practical solutions and often radical changes. These changes are what we call innovation, or the creation of new social values. When we really meet the need for action, we may become innovative and creative. This will be led, more often than not, by the crazy ones, those who think DIFFERENT.

“Be the nail that sticks out!” The Crazy Ones are those who change the world, as history showed us repeatedly. I learned and refined this mindset when I was a student in the US. Upon my arrival, my mentor told me to conduct independent research and develop and test my own hypotheses. I was encouraged to voice my own opinions during discussions and to actively question. That was very shocking for me. Even though he was the professor and chairman and I was just a fellow, we were equal. I was told to question using my expertise. That was an eye-opening experience. And I want you all to use your experiences, your unique perspectives to make a difference and work to improve the world. Your experience at UNU, in Japan, and the perspective you have given your individual backgrounds are unique to you. This experience will become a significant asset in your future career, connecting you to Japan and your classmates, colleagues, faculty and friends, wherever you may be and whatever your career may become of.

This brings me onto my next point: **Interconnectedness**

Over my career, I have had friends, peers and mentors in many countries of the world, and the person-to-person connections and trust have shaped my ideas and the course of my life. For instance, when I was living in the US and working as a professor I had a reasonably satisfying life. But one day, my former mentor from Tokyo University came to see me and urged me to come back to Japan. He told me: “University of Tokyo needs someone like you”. The faculty had previously not accepted me back as a professor, but the number two post under my mentor had opened up, and he was able to invite me to the position directly. He told me, “I really need you. You can come back

and try it for a couple of years and see if you like it". Dean of UCLA also supported such a proposal as it was my alma mater. That was nearly 30- years ago.

Today, interconnectedness and mobile and internet technology are ubiquitous. We take them for granted and wonder how we'd ever survived without them. We can hardly remember or imagine how the work was done before the internet, but all this progress is extremely recent. The Cold War ended just over 20 years ago, in 1991. The year that marked the end of the bipolar world also marked the beginnings of our internet connected world, because it was the year that marked the debut of the World Wide Web as a publicly available service on the Internet. It was only then in the early to mid 1990s that what has become known as "the new economy" emerged. E-bay, Yahoo and Amazon were founded, Netscape went public and Windows95 came out. But back then, people were only connected to the internet via slow telephone lines.

It is only within the last 10 years or so that technology has gone mobile, wireless and spread quickly and Wiki world has come. In 2001 iTunes 1.0 was released and the iPod came out. The iPhone only came out in 2007, and the iPad in 2010, only three years ago.

Now, we cannot imagine a world without being able to summon any piece of information anywhere, anytime. Babies are born with touch-panel. Mobile and internet technologies are now "the means by which people are re-invented". Whoever you are, wherever you are in the world, you are able to communicate and call on to information. What this means is that information is becoming further democratized and it is easier for people in poor and rural communities connected to the global economy.

What it also means is that more people will learn about how unjust things are in the world. They will learn the truth of the situation and will become more empowered. The world will become one. The world will become more and more flat. So, in a world where everyone has access to the same information, what is it that creates uniqueness? What is it that will create **your** value?

This is my last point. I believe the answer is Real **Experience**.

Not what you can experience through a computer screen, but the experiences that we make in real life count.

It is as Confucius is said to have stated:

"I hear and I forget; I see and I remember; I do, and I understand."

And you are already in a unique and privileged position having studied here in Japan, in United Nations University and made connections with trust from all around the world through UNU. As I mentioned, it was a personal connection, my former mentor, who invited me back to Tokyo, which changed the trajectory of my life. But there are so

many people who I owe a debt of gratitude to for the things I have been able to achieve. In US as post-doc fellow, I worked very hard and became a professor in 10 years. But I could not have done it without the help of many people including my friends, mentors, colleagues, students and many patients.

Your experience in Japan must have presented you with struggles and challenges. When you return to your countries, appreciate the people who supported you during your stay. I am certain that somewhere down the road, your friends and mentors will come back into your lives. Through your experience of studying here, you have seen a different Japan. You know more about how the Japanese think. This is something that cannot be learned without having lived here.

I want you to become an expert on Japan and an ambassador of Japan and the UNU. This will serve as an asset to you in your future careers. Your own unique backgrounds and nationalities are also your assets. By combining your background and your experience, you will have a unique perspective.

Your advantage is your uniqueness, your uniqueness is your value in the global world. By having spent time outside your country, this will help give you a healthy patriotic feeling for your country. You can see yourself and your country from a different, but broader perspective. You can see both what is good about your country and what can be improved.

You will also be able to better recognize your own strengths and weaknesses. And in order to improve, you will need to practice humility. Use your experience to help others, and this will create a virtuous cycle. Your actions from now will be what shapes the world of tomorrow and will create a legacy for UNU.

It is impossible for anyone to predict how the world will change. Today, you are standing at the start line of your new life. There is an American film called "The Dead Poets Society." It is a story about the bonds formed between a teacher and his students at an elite boarding school. I was very moved by this film. Many wonderful words are spoken in this movie. Carpe diem, meaning "seize the day" stayed with me in my heart. If you live each day according to the phrase, "Carpe diem" you will live each day to the fullest.

I wish you the very best for your future careers and every happiness in life. Cherish the experiences you have had in Japan and the friendship and connections you have made.

Remember 'Carpe Diem' and never be afraid to be the nail that sticks out.

Congratulations to you all.