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## Toward Creation of a Truly Humane Civilization

### 本田賞35回記念シンポジウム

「人間性あふれる文明の創造へ向けて  
: バランス、価値観、倫理と総合性」

小島 明

公益社団法人 日本経済研究センター 参与  
本田財団 理事

Good day, ladies and gentlemen. I am Kojima. Since there was already an introductory video presentation and President Ishida had already spoken precisely about the essence of this symposium, I am somewhat at a loss as to what to talk about. However, please allow me to recapitulate the objectives and concept in order to carry on this symposium in regard to the important theme “Toward Creation of a Truly Humane Civilization.” I would appreciate it if you

would take this as a report on what I just mentioned rather than a keynote speech.

### 混沌とした現在の世界情勢



「それは、最も優れた時代であり、最も悪い時でもあった。観智に充ちているようで、愚昧な世でもあった。信仰の時代であり、不信仰の時代でもあった。光明に輝いたときでもあり、暗黒な時代とも言える。希望に溢れた春であり、絶望の冬でもあった....」

(チャールズ・ディッケンズ『二都物語』1859年)



It was the best of times. It was the worst of times.  
It was the age of wisdom. It was the age of foolishness.  
It was the epoch of belief. It was the epoch of incredulity.  
It was the season of light. It was the season of darkness.  
It was the spring of hope. It was the winter of despair.  
We had everything before us. We had nothing before us.

Charles Dickens “A Tale of Two Cities”, 1859

First of all, the world, including present-day Japan, is in a very chaotic state as unexpected events occur one after another and the risk is increasing. The statement in the slide is fondly remembered. The following words appear at the beginning of Charles Dickens’ *A Tale of Two Cities*. This speaks of 1858, but it

seems to speak about our present world as well.

“It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us...” This is a famous opening passage.

**1989年＝ベルリンの壁崩壊** HOP

- 1991年＝ソ連邦崩壊→40数年続いた冷戦の終わり
- 「ポスト冷戦」で生まれた平和と繁栄への期待。
- 現実＝世界の紛争多発。経済は「メガ・グロウス（J・スティグリッツ）」だが、危機多発。「歴史は加速しているが軌道は不安定化。価値観崩壊。世界は自動操縦装置を搭載した飛行機のように、目的地がないままスピード」(Z・ブレジンスキー、「Out of Control」)



ベルリンの壁崩壊(1989)



ズビグネフ・ブレジンスキー  
Zbigniew Brzezinski

However, even as the new era is appearing before us, we recall that on the 9th of this month, 25 years had elapsed since the collapse of the Berlin Wall in 1989. Through this event, the process of ending the cold war had drastically accelerated. In 1991, the Soviet Union collapsed. The drama of the end of the cold war that had continued for more than 40 years happened only very recently.

November 9, 1989 is the day that the Berlin Wall collapsed. If we try to remember, 11 and 9 are days on which fairly significant or unexpected events happened by sheer coincidence. The opposite of 11.9 is 9.11, and this is the day on which the simultaneous terrorist attacks happened in the United States. 9.15 refers to September 15, 2008 during which Lehman Brothers went bankrupt and a financial crisis that jolted the world set in. 3.11 refers to the great earthquake of 2011 that we in Japan experienced. Yet, in any case, just like the rapid unfolding of the end of the cold war with the collapse of the Berlin Wall in 1989, many people expected peace and stability in the post-cold war world.

But this has not necessarily been the case. In 1991 when the Soviet Union collapsed, the Japanese

bubble economy burst resulting in harsh economic conditions that still persist. If one were to speak of the rest of the world, as pointed out by the Nobel Prize economist Joseph Stiglitz, the 1990's was an era of mega growth. In the midst of all these, there are high expectations that the 21st century would be one of peace and prosperity. But as pointed out in the earlier video, the reality is that in terms of number, there are more conflicts in the present than in the cold war era, and the resolution of these conflicts is hardly in sight. The world has become more unstable.

Even as the economy grows, severe crises keep recurring time and time again. Concerning this world, the American political scientist Zbigniew Brzezinski, who in the past wrote *Hiyowanahana, Nippon or Japan: The Fragile Blossom*, stated the following in his book *Out of Control*: “History is accelerating, however its trajectory is becoming unstable. Established values are massively collapsing especially in the advanced parts of the world. Consumerism masquerades as a substitute for ethical standards. The world is rather like a plane on automatic pilot, with its speed continuously accelerating but with no defined destination.” That was how he characterized the 1990s.

That being said, our future direction and our shared values are slowly coming within sight before us. You may call this foresight when in December 1977, Honda Foundation was established, and continues with its advocacies following the principles of Soichiro Honda, “Technology must be humble and humane, and must give care to all aspects of the natural environment, including man.”

**見えてきた方向、価値観** HOP

- 「エコテクノロジー」と「人間性あふれる文明」の創造
- 本田財団設立のきっかけとなった1976年シンポジウムのテーマ「DISCOVERIES」

“Definition and Identification Studies on Conveyance of Values, Effects and Risks Inherent in Environment Synthesis”  
(環境全体のなかで、人間活動にとって何が問題かを発見する)



- エコテクノロジーで重視される21世紀の価値観＝「自然環境」と「人間環境」との調和

The catalyst for this was the symposium entitled “DISCOVERIES” held in 1976. This word “DISCOVERIES” is indeed a sophisticated coinage. An acronym for “Definition and Identification Studies on Conveyance of Values, Effects and Risks Inherent in Environment Synthesis,” it is a statement signifying the discovery of what the problems are for human activities in the entire environment.

There was considerable impact when the symposium “DISCOVERIES” was opened. Expectations rose that the discussion would continue and expand, and, in fact, Honda Foundation was born in 1977 in response to such demand. Since the Honda Foundation consistently identified itself with ecotechnology as a focal point, its awareness of the issue has been very clear from the start. It has maintained and pursued its focus on ecotechnology, superimposed on the ecosystem and science and technology.

As earlier mentioned, the Honda Prize was established in 1980 to recognize individuals or groups with remarkable accomplishments in ecotechnology. And now, we are commemorating its 35th anniversary. As we commemorate this 35th year, we have the Honda Prize laureates come on stage to discuss the ideal state of civilization.

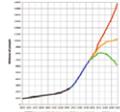
One of the realities given attention to in ecotechnology is the increased burden on the environment as a result of brisk economic activity aided by science and technology. At the same time, it is important that ecotechnology also seeks to correct the kind of development that neglects not only the natural environment but also, at times, humanity. The idea is to give care not only to harmonizing the natural environment, but also to harmonizing it with the human environment. This is the 21st century—the world has to take these ideas seriously as shared values and respond accordingly.

Perhaps everybody has heard about the Club of Rome. The Club of Rome is a private organization established in 1970 as a Swiss corporate entity. Consisting of scientists, economists, educators and business leaders from around the world, it has been discussing the various problems attendant to science and technology and economic development. It became widely known when it published a famous report in 1972 entitled, *The Limits to Growth, Crisis of*

*Mankind*. The report *The Limits to Growth* warns that unless we respond promptly to demographic changes and economic development, we would face the problems such as environmental destruction, depletion of natural resources, and food crisis.

**ローマ・クラブ『成長の限界』報告から40年目の新レポート**

- 『2052年：今後40年のグローバル予測』  
(Jorgen Randers, “2052: A Global Forecast for the Next Forty Years”)
- 1. 資本主義、民主主義における目先思考 (short term focus)
- 2. ガバナンス問題＝気候変動問題は技術の限界ではなく人間のガバナンス問題
- 3. 課題、負担の先送り、ツケ回し。格差と世代間の緊張。成長鈍化、人口減少。
- 4. 新興10カ国(インド、南アなど)の経済は成長するが、グローバルには30億人の貧困が続く
- 5. 人類の要求(需要)はglobal capacityを40%以上、上回る
- 6. 世界人口は2042年に81億人でピーク。都市の出生率急速に低下

Protest and criticism arose from the global industry against this. They argued that zero-growth theory or anti-growth theory is nonsense. But subsequently, in 1973, the oil crisis occurred, an event that Japan can never forget, and because of this the Club of Rome drew a great deal of attention from around the world.

In 2012, an updated version of *The Limits to Growth* report was released. In January 2012, or forty years after the publication of *The Limits to Growth*, I incidentally had the chance to attend the 40th commemorative annual conference held in Bucharest. There, an outlook on the next 40 years was presented. This was also translated into Japanese. Jorgen Randers, an environmental strategy professor who was one of the authors of *The Limits to Growth* 40 years ago, also attended, and both the retrospective of the past 40 years and the perspective and challenges of the next 40 years were discussed.

The points made by Prof. Randers can be summed up as follows. The most important issue for the next 40 years is the short-term focus or shortsighted thinking on capitalism and democracy. Unless this is rectified, the long-term well-being of mankind cannot be realized, and the world’s response to significant issues will be too late.

The second point is the problem of governance. He stated that if the problem of

climate change will not be solved in the next 40 years, it will not be because of the limitation of technology itself but because of the issue of people, the problem of governance. There is no dearth of what is technologically available, such as heat-insulating materials, heat-insulating homes, battery cars, solar panel, wind power and many others. But if society is built solely for the purpose of maximizing short-term profit, we will lose the ability to respond to this problem.

The third point is that perhaps both democracy and capitalism have not given sufficient consideration to repercussions on our children and grandchildren. The burden of the responsibility and unsolved issues are passed on to the next generation. It is very likely that henceforth, the tension between generations will intensify. In fact, in the last 20 to 30 years, economic disparities have widened markedly in the United States. As a result of this, appropriate measures are being discussed. However, simply putting the brakes on economic growth rates will not solve the problem.

The fourth point is that while the economies of 10 emerging countries such as India and South Africa are growing, poverty continues among 3 billion people globally. The fifth point is that the desire, want or demand of mankind exceeds global capacity by 40%. How do we deal with this problem? The sixth point is that world population will peak at 8.1 billion in 2042. After this, the population will decline. I think it pointed out the problems that accompany change of value systems due to urbanization and remarkable trends of a drop in birth rate will then be apparent.

The point that was repeatedly alluded to and emphasized in the Bucharest annual conference was that capitalism, market economy, and democracy will become increasingly so shortsighted in its thinking that the world will not be able to sufficiently address the structural and deep-seated problems that confront mankind. What left the greatest impression on me were the words "Short-termism" and "Governance."

As a matter of fact, I have been frequently hearing the word "short-termism" in the US after the Lehman Shock in 2008. Short-termism in the US is a criticism against economics and management that attach too much emphasis on the financial aspect. Demonstrations against the short-term profit-seeking

financial industry symbolized by Wall Street have been in the news.

ローマ・クラブ2012年総会が求めた「新しい経済学」

- 課題としての3つの分断 (triple divorces)
- 分断1 生産と雇用の分断の拡大
- 分断2 金融と実体経済の分断
- 分断3 economyとecologyの分断

アンダース・ウィックマン  
Anders Wirkman

バーナード・リーター  
Bernard Lietaer

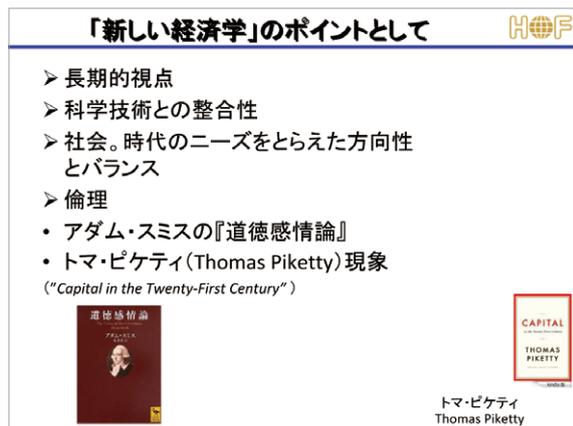
At the Bucharest annual conference of the Club of Rome, aside from the points made by Randers, Wirkman's report on *Bankrupting Nature* and Prof. Lietaer's *Money and Sustainability* were also released. Centered on these two reports, the conference tried to discuss issues from a future-oriented, long-term perspective. The Club of Rome avoids propounding zero growth or anti-growth policies as measures against the global crisis. Zero growth or anti-growth policies will not solve the problem. The consensus at the conference was that the quality of growth is important and thinking only in terms of GNP has to change.

What came out of this was a discussion on the need to build "New Economics." There, it has been determined that the present Economics is outdated and can no longer address real issues, the reason raised being the triple divorces. The first is the divorce between production and employment, the second between finance and real economy, and the third between economy and ecology. There were also reports by working groups regarding this problem.

Among the reports, the following statement was made. The New Economics must be built not through realistic dogmas but through rational thinking. The Economics we should aim for is not one of mathematical rigor but one concerned with the well-being of mankind. The present economics is based on the flawed accounting system that makes growth, any form of growth, desirable.

It is pointed out that the present system of

accounting lacks a viewpoint that seeks to improve harmonization of economic benefits from such problems as war, pollution, crimes, spikes in oil prices, terrorism, contagious diseases, natural calamities, scarcity of water resources, and destruction of forests with improvement of nutrition, housing, health, and society. Or, on the other hand, it just treats all these problems alike. What the New Economics seeks is consistency with science and technology as well as balance and ethics.



The following point was raised in regard to the second of the three divorces, namely the divide between finance and real economy. In 1997, the Asian crisis broke out. In Japan, the financial crisis began in November of that year. Attending the January 1998 Davos Conference in Switzerland that was held in the midst of the Asian crisis, I had a random conversation over breakfast with George Soros, a financial capital guru.

He said the following. "The Asian Financial Crisis was not an Asian crisis. Neither was it a financial crisis. In essence, it was a global crisis of finance capitalism. The finance world is different from the real economy. In the real economy, processes such as product planning, design, procurement of raw materials, production of parts, assembly, manufacturing, sales, after-service care, and sales service take time. In that interval, price is determined by demand and supply, and move spontaneously towards equilibrium."

However, in the financial market, transactions are instant, and as soon as an expectation of price arises in the market, new supply and demand arise

immediately in response to it. The price of money is interest rate, foreign exchange rate and stock price, and as soon as this is determined a new expectation arises, which results in the shaping up of a new price, and gradually the prices undergo significant change. On the final analysis, the price can deviate in any number of ways from the equilibrium of neoclassical economics, and the equilibrium point from the theoretical.

This actually happened during the Asian crisis, which George Soros pointed out was in fact a global financial crisis. The Davos Conference was held in January 1998, and by the end of the year, he published a book that clearly posited the problem. By the way, if you look at the present financial capital market, stock exchanges all over the world compete against one another. Within that, high-speed trading proceeds in what can only be called an abnormal manner. A system is being developed that makes possible trading in 1 millionth of a second or 100 millionth of a second. Competition in the development of this system has given rise to a world which makes it difficult to make a profit unless one is able to invest in units of 100 millionth of a second.

In the recent boom in discussion of economic systems, the problem of disparity as shown in the introductory video has come up. The book written by French economist Thomas Piketty on the 21st century capitalism is gaining attention among readers around the world. Originally written in French, it became a worldwide bestseller after it was translated to English, selling 400 thousand copies three months after the English edition came out, of which 75% were sold in the heart of capitalism, the United States of America. The sense of crisis towards the excesses of American finance capitalism is very strong. Unable to address this crisis, the Obama administration received a considerably severe backlash in the recent mid-term elections.

What are needed in the New Economics are long-term perspective, consistency with science and technology, a sense of the times and a sense of ethics. To deliver positive results towards the creation of humane civilization, there must be a sound awareness of social needs, the needs of the times, and a sense of direction whether in economics or in science and technology.

If one were to speak of Adam Smith, he would be like the originator of free competition and free economy. But there is a book that he had revised many times and he claimed was more important. It is not *The Wealth of Nations* but *The Theory of Moral Sentiments* which placed greater emphasis on the ethical aspect. It is said that he revised it many times.

In 1990, I incidentally had the chance to attend the 200th year commemorative conference of Adam Smith held in University of Glasgow. In that conference, the ethical issues in economics as expounded in *The Theory of Moral Sentiments* drew attention. Whether in economics or science and technology, what will become increasingly important are not fundamental principles or fundamentalism but synthesis, morality, and balance. From what viewpoint should one resolve the issues of global environment, energy resource, aging society, contagious diseases, and medical problems is extremely important. Alongside the energy issue of Peak Oil, Peak Water, or the problem of water resources, is increasingly being discussed.

### 福利厚生を確保するイノベーション



- 「人間性あふれる文明の創造」にはイノベーションが不可欠。
- イノベーションについての日本の認識の問題点。
- イノベーションは「技術革新」ではない。1958年『経済白書』の翻訳から始まった誤解。
- ジョセフ・シュンペーターが唱えたイノベーションは、新しい価値の創造、活用、普及にまでつながる新しい「結合」「新機軸」。

Be that as it may, innovation will become a very important issue. Innovation is essential to the “creation of a truly humane civilization.” However, what is more important than innovation only in science and technology is a multi-faceted, comprehensive innovation that encompasses government administration, policy decision-making process, management and academic-industrial cooperation.

In Japan, innovation is generally spoken of as technological revolution. Therefore, partly as a result

of the translation of the word of “technological revolution,” there is a tendency for “innovation” to be used in the context of an engineer’s worksite. This came about because in the 1958 *Economic White Paper* by the government, “innovation” was translated as “technological revolution.”

At that time, Japan was a late-developing industrial country that was catching up, so it may have been alright to limit the word to technological revolution, but now that use is being strained. The word has to be discussed in a broader context. There was a famous, Austria-born scholar named Schumpeter. Discussing innovation in a systemic manner, he defined innovation as a new combination or a new idea that leads to the creation, practical application, and diffusion of new values.

In concrete terms, he pointed out five aspects, namely the production of new goods and services still unknown to consumers; second, the introduction of an improved or better method of production; third, the cultivation of a new market; fourth, the procurement of a new source of supply of raw materials or half-manufactured goods; fifth, the realization of a new organization. To discuss this in the present context, a multi-faceted systemic innovation that includes the state’s policy decision-making process is very important.

### 「選択する未来」へのイノベーション



- 危機感、問題意識がイノベーションにつながる  
-1970年マスクー法をHondaがクリア



- イノベーションに価値観、時代感覚、倫理観が肝要



交通体系革新～東海道新幹線

Next, the ability to choose our future is very important to innovation. Fifty years ago in 1964, the Tokyo Olympics were held. At that time Japan was still in the least developed stage and the quantitative expansion of its economy was an overriding imperative, so everyone was happy about the high

growth. Seeing smoke coming from the chimney, I remember rejoicing, “Oh, Japan is alive and kicking.” However, several years later, rivers in big cities like Tokyo became muddy with black filth, and the fish disappeared. The atmosphere was also so polluted one could get asthma. Pollution was such a big issue in the Diet during 1960s that it generated a debate so rabid it earned the nickname “pollution Diet.”

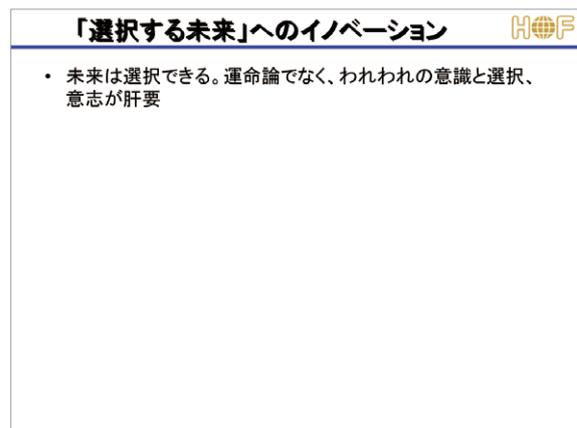
But it gave rise to a sense of crisis that in turn generated a multi-faceted innovation. The Muskie Act of 1970 addressed the issue of pollution, and Honda’s CVCC took the challenge of the strict standard to significantly reduce SOx emission. Furthermore, someone has been conducting an ocular observation to determine how many days in a year Mt. Fuji was visible from Tokyo for even a short interval during the day. One year prior to the Olympics in 1963, it was visible for 49 days of the year. However in 1965, one year after the Olympics, it was visible for only 22 days, and I think the environment progressively deteriorated afterwards until the number of days fell to zero.

But the new innovation born inside organizations gave rise to changes not only in technology itself but also in management style, state administration, and lifestyle and, as a result, Japan became an environmentally advanced country. In 2012, one could catch a glimpse of Mt. Fuji for 126 days in one year. Very recently, we learned from the news that a man from Kyoto, 220 km away from Mt. Fuji, succeeded in taking photographs of the mountain. This is one symbol that Japan has been able to address the pollution issue through innovation.

Now, the lower right photo shows a bullet train. It has been 50 years since the Tokaido Shinkansen was launched. It has transported 550 million people without accident within those 50 years. Barring earthquakes, its time is very accurate. More than being merely an innovation in transport technology, it is an example of innovation of management. It is progress in operation. It has had a powerful effect on the world’s transportation system as a whole. Therefore, when it comes to innovation, it is important to think from a broad perspective.

Certainly, there are enormous difficulties in realizing the theme of helping create a humane

civilization but by checking our value system, and weaving balance and ethics into innovation, it can become more feasible. What are essential are awareness and choice, not fatalism. In other words, the perspective and the standpoint where we can choose our future through our own effort is necessary. Likewise, we can overcome the issue of aging society through a broader definition of innovation and create a deep, mature society.



Being one of the pillars of growth strategy in Abenomics, robotics holds possibilities not only at the production site but also in a variety of other fields. The photo on the left side is that of a wearable robot that was developed by Prof. Sankai’s group from the University of Tsukuba. This is an excellent invention. A limbless person’s brain can connect to a robot through its sensor, and when that person thinks of walking, the machine detects minute signals and moves forward. It is indeed a marvelous invention.

In fact, Japan’s administrative innovation is hampering the use of robotics. In Europe, mainly in Germany, robots are rapidly being adopted for use even in hospitals. Especially in Germany, if one uses one, it is covered by public health insurance. In Japan, however, it can be used in nursing care to assist in work that requires use of muscles, but not in medical care. It is an example of technological innovation that holds great possibilities in Japan if such innovation were adopted in its broad meaning.

Furthermore, Japan has already made advances in such fields as plant factories, renewable energy, hydrogen energy, and fuel cell batteries, as well as the so-called Elements Strategy for the

securement of rare earth functions, its areas of expertise, and should challenge itself further towards the technological innovation frontier that is integral with the economy. I believe this frontier is immense.

**米NIC (National Intelligence Council) のGlobal Trend2025報告**

- 2025年までに技術的なブレイクスルーが考えられる分野の3段階
  - ◆ 1段階 (probable=恐らくそうなる)
    - a. ユビキタス・コンピューター技術=広範な分野で効率あげ、社会を情報化時代に統合
    - b. 浄水技術 (clean water) = 農業、食品加工、飲料製造。科学製品、薬品、半導体、それと生活のための浄水が重要。争奪戦発生も。安価でエネルギー効率の高い浄水技術を先に開発した国には膨大な地政学的優位。
    - c. エネルギー技術=燃料電池、代替可能エネルギーなど
  - ◆ 2段階 (possible=可能性がある)
    - a. クリーン。コール技術
    - b. バイオ燃料
  - ◆ 3段階 (plausible=あるいは可能)
    - サービス・ロボット=増大する高齢人口の介護のありかたを変える

Next, I have also picked out some points at issue in the NIC (National Intelligence Council) Report. Where are the areas of possible technological innovation? These areas are classified into three based on degree. Aside from robotics that we have already mentioned, the other areas of possibility are energy, water treatment facilities and the ubiquitous computer. How do we choose the field and move in the direction that will enable us put it to actual use?

**『科学技術白書2014』**

- ライフ・イノベーション (「ライフサイエンスは生物が営む生命現象の複雑、精緻なメカニズムを解明。その成果は予防、感染症克服、創薬研究など医療の発展、高齢者・障害者支援、食料・環境問題につながり、人々の生活の質 (QOL) 向上と経済全体の発展に寄与する」)
- クリーン・イノベーション (「安定的なエネルギーの供給確保と太陽光発電やバイオマス利用など再生可能エネルギー技術の推進、低炭素化、自然共生型まちづくり、気候変動や大規模災害への対応、地球観測の強化・推進など幅広い分野での挑戦が期待される」)
- 人材育成 (イノベーションを実現するのは人、制度面からの改革)



Finally, I would like to mention this year's *White Paper on Science and Technology*. The *White Paper on Science and Technology 2014* released by the Ministry of Education, Culture, Sports, Science and Technology in June this year promotes life innovation and clean innovation in light of the 3.11

disaster and the 2020 Tokyo Olympics. The idea of the white paper is to convey to the world the very objective of this symposium, which is ecotechnology, and to cooperate with countries in the world.

The Tokyo Olympics 50 years ago symbolized a developing country's pursuit of quantitative expansion and growth. It has been 50 years since then, and the question that will be asked about the second Tokyo Olympics, which will be held a few years hence, is how Japan can translate its mature society and new innovation into the enhancement of social and global well-being. It will be an important opportunity to showcase in concrete forms our contribution to today's very theme of humane civilization, which includes environmental issues.

We look forward to hearing specific wisdom from the lectures of Honda Prize laureates who are here today. I appreciate your forbearance and thank you for your presence here today.