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# Will the limits to growth come after all?

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Predictions of the future are often wrong. This is because the data on which predictions are based are usually insufficient, and the phenomena being predicted are generally complex. They also fail because of ontological barriers; that is, the difficulty for those who exist within the system to make predictions about the system to which they belong. The “Limits to Growth” theory put forth by the Club of Rome in 1972 also missed the mark. While the Club of Rome emphasized that its vision of the future was not a “prediction,” many people perceived it as such, which caused shockwaves at the time. Simulating the changes in the crucial factors influencing the fate of humanity—population, capital, food, natural resources, and pollution—the report claimed that we will reach the limits of growth and enter a period of decline within the next 100 years. The report predicted that a geometric increase in the world’s population was statistically inevitable, accompanied by a commensurate increase in the food and natural resources needed. The world’s capacity to provide food, however, will eventually reach its limit, and natural resources will ultimately be depleted, while pollution will worsen rapidly. As a result of the positive feedback cycle between population and capital, reaching the limits due to geometric growth is unavoidable. Even if the assumptions of the simulation were changed to infinite availability of natural resources and suppression of pollution, the catastrophe can only be delayed, not stopped.

Kenichiro Komai, then-Chairman of Hitachi, Ltd. and a member of the Club of Rome, initiated the establishment of Hitachi Research Institute (HRI) in 1973 with the aim of “establishing a soft science that integrates economy, society, management, technology, and other fields to address not only long-term and fundamental problems within the Hitachi Group, but also to widely respond to the needs of the nation, government agencies, and other companies.” In the 50 years since then, HRI, as strategic think tank of the Hitachi Group, has tackled and produced significant output in a wide range of research topics. These include the resource and energy problems and international management in the 1970s, the structural transformation of the Japanese industry and American studies in the 1980s, the IT revolution and globalization in the 1990s, and the environmental problems and Chinese studies in the 2000s. After the management crisis during the global financial crisis in 2008, the Hitachi Group has been advancing bold business structural changes and governance reforms, enabling it to achieve global growth centered on social innovation business. HRI, as a navigator for the management of the Hitachi Group, is currently engaged in research on value chain transformation, generative AI, climate change issues, and the geopolitical situation around the world. Foreseeing what the world’s politics, economy, society, and technology will look like beyond 2030 is one of its main areas of focus. However, it is likely that only a few of our predictions will be perfectly accurate.

The post-Cold War perceptions that democracy and capitalism would prevail, that the world would function as a single market, that pollution would be subdued, and that humanity would benefit

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from peace for a long time were completely wrong. The impacts of global warming have become more pronounced around the world, and we have been faced with the brunt of the COVID-19 pandemic. It has been difficult to achieve the global warming mitigation goals of the Paris Agreement. As we enter a new era of humanity's profound impacts on the entire Earth, the argument is gaining ground that it is impossible to control the damage to the planet unless humanity stops its growth. Hostilities between nations have intensified, the U.S. has become more divided internally, Japan has been unable to escape an economic slump, and there is a big war going on in Europe. It was also difficult to predict the geopolitical tensions in the Asia-Pacific region, as explained by Dr. John Hamre, president and CEO of the Center for Strategic and International Studies (CSIS), contributed to this HRI web-magazine. It is probable that divisions and conflicts between countries will escalate. The recent economic policies of major countries, also known as the New Washington Consensus, are based on the principle of national priority.

On the other hand, society's understanding of diversity has progressed, and humanity has made many achievements. Human life has been extended by advances in medicine, generative AI has emerged, cyberspace has continued to expand exponentially, and development in the exploration of outer space has also progressed. I had never thought about having a long working career in a 100-year life, as Dr. Lynda Gratton, professor of the London Business School, contributed to this HRI web-magazine, advocates.

Fifty years after the Club of Rome raised the issue, mankind may have to simulate the limits to growth again. Value is created in capitalism by venturing into uncharted frontiers. Differentiation creates value. The frontiers of real space on Earth have almost vanished, while the frontiers of cyberspace have expanded greatly—but the drawbacks have also multiplied. The accumulation of debts by countries around the world is also a result of preempting future value because of an inability to reap current value in the economic space. It will also take more time to explore the frontiers of outer space. The discussions at the United Nations Climate Change Conferences are serious efforts aimed at balancing economic growth and global sustainability, but the outlook for progress is dim. However, we cannot afford to stay idle until the limit is reached. Although it is extremely difficult for those who exist within the system to improve it, it is only by repeatedly taking the challenge of exploring solution scenarios that we can catch a glimpse of a breakthrough. The words of the Club of Rome 50 years ago are undoubtedly still valid: “[the] realization of the quantitative restraints of the world environment and of the tragic consequences of an overshoot is essential to the initiation of new forms of thinking that will lead to a fundamental revision of human behavior and, by implication, of the entire fabric of present-day society.”

References:

Donella Meadows et al. (1972), “The Limits to Growth: A Report for the Club of Rome’s Project on the Predicament of Mankind”

<https://www.library.dartmouth.edu/digital/digital-collections/limits-growth>