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EDITOR'S NOTE

Thanks to the remarkable progress made in science and technology during the 100 years of the 20th century, the quality of contemporary life has improved, and we have achieved material wealth, but we are approaching a turning point where we can no longer continue to destroy the environment by using all of Earth's resources while maintaining mass consumption. I think that the recent Great East Japan Earthquake has accelerated this process, and that the importance of science and technology that connects nature and human society will only increase in the future. In addition, in Japan the birthrate is declining and the proportion of elderly people is growing faster than in any other country in the world, while its economy is on the downturn amidst the sudden turbulence of globalization as emerging nations catch up. Resources other than human resources, including energy and food, are scarce in Japan, forcing it to secure the capital necessary to maintain the inflow of a large volume of resources.

I will explain how winning a Nobel Prize is not an unattainable dream if one has passion. A prime example is Dr. Shinya Yamanaka, who won the Nobel Prize for Physiology or Medicine in the fall of 2012. Dr. Yamanaka began his research on iPS cells in earnest in 1999, when he was an assistant professor at Nara Institute of Science and Technology. He subsequently received large-scale funding from the Japan Science and Technology Agency in 2003, at which time Dr. Tadamitsu Kishimoto (former president of Osaka University), who served as an interviewer during the selection process, commented, "I didn't think he stood a chance of succeeding, but I admired his great drive during the interview." Dr. Yamanaka went on to win the Nobel Prize in the short span of 12 years after beginning his research on iPS cells. The contributions to society that the fruits of his research will bring are only just beginning to become apparent; thus, it was an exceptional win.

However, not all was smooth sailing along the way. Dr. Yamanaka was originally an orthopedic specialist, but he resigned in 1989 and enrolled in Osaka City University, where he acquired expertise in pharmacology. He went on to study abroad in the United States in 1993, where his academic supervisor told him to have a vision and work hard, which reportedly brought home to him his lack of a long-term vision. I think that this valuable experience taught him the importance of passion and long-term vision, and that his many years of hard work resulted in the creativity that led to his win.

This demonstrates the need for practical and organized knowledge, intellectual curiosity and passion, long-term vision, and creativity in order to make a success of such original research. The last attribute on the list, creativity, does not appear to be something that can be acquired through studying or training. I think it refers to an unexpected and lucky discovery that one makes as part of one's continued quiet dedication. It is my hope that you will contribute to society and lead a proud and glorious life by building a truly affluent society, performing original research that results in a major discovery or turning a breakthrough into a useful product, while possessing the above four attributes.

Hiroshi KANAI
Editor-in-Chief