

Meaning of Wealth as Encapsulated in Richard Buckminster Fuller's "Spaceship Earth" Model

In 1968, four years before the Club of Rome released *The Limits to Growth* simulation, which articulated an existential crisis for humanity, leading 20th-century engineer Richard Buckminster Fuller published a book entitled *Operating Manual for Spaceship Earth*. The following is a discussion between MARUI GROUP Sustainability Advisor Peter David Pedersen and President Hiroshi Aoi on how to transmit the ideas put forth by Fuller half a century ago to future generations.

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Wealth as the Number of Forward Days We Are Physically Prepared to Sustain for Future Generations

Aoi: When I work with you, Mr. Pedersen, Richard Buckminster Fuller often comes up. I always had great interest in the ideas Fuller advocated as well as in his concepts of synergies and critical paths. Rereading Fuller's works was an enlightening experience. How were you first introduced to Fuller?

Pedersen: I think my first exposure to Fuller was a mention by my father when I was researching alternative communities in Northern Europe. I was struck by Fuller's idea of wealth.

Aoi: I too was struck by this idea, and I have memorized that section of his book.

Pedersen: In section 6, synergy of *Operating Manual for Spaceship Earth*, Fuller writes, "Now we can account wealth more precisely as the number of forward days for a specific number of people we are physically prepared to sustain at a physically stated time and space liberating level of metabolic and metaphysical regeneration." Let us say, for example, that the earth will have a population of 10 billion in 2050. The duty of those of us alive today would then be to create a situation in which water, food, resources, and energy can be regenerated in order to remove factors that may place constraints on the lives of these 10 billion future denizens of earth. The number of days we can continue to use the earth's resources—there is no greater definition of wealth.

Aoi: This idea inspired me as well. I was very glad when I heard that your concept of inter-generational perspective was based on this idea.

Pedersen: Sustainable development means to meet the needs of current generations while not robbing future

generations of the potential to meet their needs. The sustainable businesses that will be required going forward are those that protect the possibility of regenerating resources, as opposed to those destroying our chances of regeneration in the future.

Aoi: Even if a parent leaves assets for their children, it means nothing if these assets are destroyed by war or by natural disasters. The concept of wealth changes greatly if we inject an inter-generational perspective.

Pedersen: I like to reference the concept of "small self" versus "big self." The small self only needs to think about themselves. It lives through trade-offs, sacrificing the future, others, and the environment for its own interests. The big self, on the other hand, thinks simultaneously in the now and in the future. It lives based on raising value for oneself and others, i.e., considering others in addition to itself. Everyone must make the decision for themselves whether to shrink down and live as their small self or to connect with the world or the future as their big self. However, choosing the life of raising value is not an easy option. After all, the history of humanity has been one of trade-offs over the more than two centuries that followed the Industrial Revolution.

Aoi: We began seeing the limits of capitalism during the latter half of the 20th century. These limits were apparent in the rise of the hippie movement and other counter-culture groups in the 1960s and the ideals of ecology that emerged around that time.

Pedersen: I have been working in Japan since 1995. The mission that brought me to this country was to teach Japanese managers about ecology. Japan differs from Europe and North America in that it has a spiritual culture of respecting nature. Considering also that the country had just seen its bubble economy collapse, I had thus anticipated that it would be ready to head down a new

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Born in Denmark in 1967, Peter David Pedersen graduated from the Institute of Cultural Anthropology at Copenhagen University. He first came to Japan in 1984. Mr. Pedersen co-founded E-Square Inc. in 2000, becoming its CEO at this time and then assuming the title of co-founder in 2011. Mr. Pedersen became executive director of The Academy for Corporate Leadership (TACL), a part of TRANSAGENT Co., Ltd., in 2014. In 2015, he became co-founder and representative director of Next Leaders' Initiative for Sustainability (NELIS). Mr. Pedersen assumed the position of sustainability advisor at MARUI GROUP CO., LTD., in 2019.



In his book *Operating Manual for Spaceship Earth*, Fuller likens the earth to a spaceship without an operating manual. This stimulating metaphor hints at solutions for the global issues facing humans. It also gave rise to ecological movements and Internet-like thinking. Often referred to as the "da Vinci of the modern era," Fuller transformed the thinking of the passengers of Spaceship Earth with his message and catalyzed the development of new thought processes.

Operating Manual for Spaceship Earth (Japanese-language version),
Richard Buckminster Fuller (translated by Takashi Serizawa),
Chikumashobo Ltd.
www.0101maruigroup.co.jp/en/ir/lib/book/001.html





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path so long as it was shown the way. Unfortunately, there was a strong drive to return Japan to the past, which I fear may have caused it to lose about 20 years.

Innovation is Born from Businesses with a Purpose

Aoi: In the past, there was a part of me that rejected the idea of “synergies” in business. Fuller, however, spoke of how synergies are the strength of businesses, their very essence. I drew courage from these words. We are often asked whether MARUI GROUP is a retailer or a finance company. I respond to these queries by saying that we are a unique entity that is kind of like a *Euglena*, which is neither fully a plant nor an animal and that therefore cannot be classified as either.

Pedersen: Synergies are a wellspring of value. To cite an example used by Fuller, a piece of equipment that drills for oil only has value defined as a set dollar amount, but the value that can be generated by the equipment is much greater. Synergies are an instrument for measuring this value. Creating greater value requires different elements to be combined. Today, the word “synergy” may be in the process of being reimagined as “co-creation.”

Aoi: At the same time, Fuller mentioned how divisions of labor and specialization impede the process of creating true wealth. Dividing a business into segments has become a common convention. However, the performance of a company is the product of its business in its entirety. What is important is how the different elements of this business communicate and collaborate and the

value they create through this process.

Pedersen: You are right about that. Many major companies carve up their organizations, effectively shutting down communication. This situation prevents these organizations from uniting in the pursuit of a shared greater good. Visionaries like Soichiro Honda and Konosuke Matsushita worked toward the shared greater good of their ambitious dream of making then-poor Japan into the No. 1 country in the world by combining a number of different elements. To borrow the terminology of Silicon Valley, they had a massive transformative purpose.

Aoi: I am reminded of the words of an employee in charge of power supply work. In 2018, we became a member of RE100, announcing our goal of sourcing 100% of our electricity from renewable energy by 2030. This move radically transformed the nature of power supply work. Previously, when asked about his job by his kids, this power supply worker would say that it was his job to purchase electricity at a low price. However, this answer did not garner much interest from his kids. After telling them about how he is now working with renewable energy, his kids were impressed with how cool his job is. This change in how his family views his job has given him renewed pride in his work. I can remember how excited he was recounting this story.

Pedersen: It is not as simple as saying “a sense of purpose changes everything.” However, a shared greater good that contributes to the resolution of issues facing humanity will no doubt be a significant source of motivation for employees. This motivation will in turn help foster

innovation and consequently value. There is practically no other way to create innovation. It would be quite beneficial if there were a means of gauging employees based on their degree of self-driven motivation.

Aoi: Going forward, MARUI GROUP will pursue its long-term vision of having all of its businesses, both new and existing, contribute to the resolution of social issues. After advancing a short way down this path, we realized that our success in this venture was predicated on our efficient operational expertise, technologies, and a sense of purpose we have cultivated thus far.

Pedersen: If we only pursue advancements in technologies and improvements in efficiency, we will lose sight of the human elements of business, leading to degeneration. However, if our driving force is created by marrying our purpose to a view of the future and to the pursuit of sustainability, advancements in technologies and improvements in efficiency will follow.

Companies as “Spaces” for Co-Creation and Collaboration between Older Generations and Junior High and High School Students

Pedersen: With growing populations and rising consumption, the global market is still a growth market. It may therefore be difficult to realize a drastic change in the current capitalistic system. The best we can do at the moment is to add the perspective of sustainability alongside the conventional criteria for competitiveness, such as price, quality, and market share. Under the current system, it may be possible to achieve a position with no competitors by creating a one-of-a-kind business that increases value for the future.



Aoi: Competition exists because of the presence of industries. Like people, companies also have their own individual personalities. Similarly, the more a company chooses to embrace its big self, rather than shrinking into its small self, the more co-creation partners it will be able to find. Going forward, I expect that the definition of a company will change from being a “vessel,” like a building or a store, to being a “space” for co-creation that draws large numbers of people. In the future, I hope that those of us belonging to older generations will be able to draw upon the ideas of junior high and high school students and integrate these ideas into our business. I am confident that reaching outside of the Company to collaborate with junior high and high school students will allow us to create something great.

Pedersen: That is an interesting idea. By creating a single field and experimenting in this field, it is possible to drive a shift from individualism to an inter-generational perspective, from trade-offs to raising value, from small self to big self. In terms of organization, this shift would be from a focus on technology and efficiency to an emphasis on purpose and sustainability. The companies of the future may take the form of fields for testing such transitions.

Aoi: Fuller, who became the central theme of today’s talk, was truly a genius. I think there is great meaning in our picking up where Fuller left off to continue on the quest that he could not complete due to the limitations of his time. The current era is one in which younger generations share Fuller’s vision, and we have the technologies and expertise necessary to realize this vision. The first step should be for us to ask people to join us in this quest. And hopefully, our efforts will spread as a result.

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