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A paradigm shift to sustainable evolution through creation of universal ties

ABSTRACT. An overview of world history after the Industrial Revolution is presented with respect to how it has led us, human beings, to face the problem of sustainability. The process is viewed as a narrowly interpreted Darwinian evolution based on natural selection, where strong groups dominate and take all as winner, wherein the associated expansionism is threatening sustainability. The author proposes an application of self-organization (the bottom-up approach) to higher levels of evolution in society with *ties* as the alternative force to the physical. Successful education for young children by the methods suggested by Montessori, Suzuki and the Early Development Association of Masaru Ibuka may be understood by the self-organization concept with ties in place. The neutral theory of mutation as the prevailing mechanism of molecular-level evolution may be regarded as a bottom-up approach in nature, while Darwinian natural selection works through competition for survival at the upper level, analogously viewed as a top-down approach. In the Edo Period of Japan, the notion of sustainable evolution is found in the Shingaku Movement and the Hotokusha Restoration. At the levels of merchants and farmers, bottom-up approaches successfully proliferated with ties as the driving force. The Toyota Production System initiated by T. Ohno may be regarded as such an approach in modern industry. The Sony Way led by Masaru Ibuka, founder of the company, demonstrated a successful bottom-up approach driven by the strong aspirations of the top management, pushing up the company to world class in a short time. The author expects organized bottom-up approaches (such as the “carve-out” scheme to enhance innovation through creating start-ups) to complement the top-down strategy typically pursued by large corporations and the industrial policies of governments. In the field of healthcare and medication, many top-down population strategies have not, however, been successful, resulting in the continuous increase of medical expenditure by households and governments. Implementation of a *sensor network* could lead individuals to bottom-up, self-improvement activities; the “Health Improvement Net Service” recently founded by the author and his colleagues to change the passive social model dependent on medicines and surgery after disease into active health creation and disease prevention has engendered some encouraging phenomena. Today, it seems that there is excessive reliance on top-down approaches; the critical importance of bottom-up approaches is neglected. Although top-down approaches based on power may *seem* efficient, history shows us that they contain risks that could lead the whole world to disaster. Although bottom-up approaches based on universal ties seem to be slow and inefficient, this paper concludes that they are critically important for a paradigm shift to sustainable evolution.

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