

Thesis Abstract

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Title of Thesis: The Practice of Change (変革論)			
Summary of Thesis: This thesis argues that the problems that challenge humanity today, climate change, health and societal inequity are complex problems that cannot be solved with the industrial methods of productivity that we have applied to our most recent challenges and can only be solved by a paradigm shift. The dissertation describes an array of new theories and methods which use the Internet and advances in science and technology to tackle these problems by causing a paradigm shift through communities and social movements. Over the last century civilization has systematically supported a market-based approach developing technical, financial, social and legal tools focusing on efficiency, growth and productivity. We have applied them effectively and have achieved considerable progress on some of the most pressing humanitarian challenges such as infectious disease eradication and generated convenience, and access to an abundance of goods and services to many people. However, we have often put our tools and methods into use with little regard to their systemic or long-term effects and thus created a set of new, interconnected, and more complex problems. Whereas our new problems require new approaches of understanding and solution design, we continue attempts to solve these new problems with the same tools that caused them. Therefore in my dissertation I ask: <i>How can we understand and effectively intervene in interconnected complex adaptive systems?</i> Examples of such systems include geological, biological and societal systems. In particular, my thesis presents the following contributions: 1. Interventions that enable the ability to transcend and transform paradigms. I propose an architecture of layers of interoperability to unbundle complex, inflexible, and monolithic systems and increases competition, generativity, and flexibility. I show how the antidisciplinary approach to research pioneered at the Media Lab can remove and address structural issues introduced by disciplines and academic specialization. I examine the dynamics of communities and movements and how they are designed and managed. I demonstrate how the Internet has fundamentally changed the nature of our interventions. 2. Insights based deep experiences in practice. I describe my own work intervening and managing communities and systems through a series of essays, papers and narrative accounts of the work. I describe my experiments in launching new antidisciplinary community research projects in medicine, the environment, the ethics and governance of artificial intelligence, space exploration, and publishing. I use the descriptions of the work to support the understanding of complex systems and the methods of intervention. Reflecting on my work experience, I examine my successes and failures in the form of learnings and insights. I discuss what questions are outstanding and conclude with a call to action with a theory of change --- that we need to cause a fundamental normative shift in society through communities, away			

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from the pursuit of growth for growth's sake and towards a sustainable sensibility of flourishing which can draw on both historical and indigenous sensibilities as well as new values emerging from theoretical and practical progress in science.

Keywords: Cybernetics, Systems Dynamics, Philosophy of Science, Internet, Cryptocurrency