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Robust Human Systems

ABSTRACT

Time has passed quickly. It was four years ago when I started a dialogue with my sense-making colleagues around the world; some of them experts who share the mind set of critical thinking, and some of them decision-makers in various governments and governmental organizations trying to deal with the uncertainty they face. The discussions concerned the ideas, thinking, processes, projects and institutions we use to make sense of and to build our respective futures. The aim was not to rank or compare the countries between themselves, but rather to find out if there exist conditions for a novel, more robust sense-making and decision-making theory.

Introduction

A lot has happened since starting this research. At the time of writing, in the summer of 2010, the entire world is reeling from a financial crisis. At the top of the economic ladder, the rich are poorer. In the middle; decades of hard work by hundreds of millions of people has been lost to a sudden financial tsunami. And at the bottom, the poor have again been pushed aside.

The credit crunch has undermined faith in our economic and investment systems and raised difficult questions for policy-makers and private individuals alike. It has undermined or destroyed the credibility of many of the foresight, planning and investment theories and the reputations of the past generation.

For me, the issue is certainly not the preservation of any status quo, whether political, economic or societal. On the contrary, we are convinced that the world is undergoing an extraordinary complex and lengthy transformation. We are all going somewhere new. None of us, the most or the least able, can plot a precise course. Nor will master plans see us through; they are the first to be jettisoned in a sea of complexity. We are all going to have to invent the new world, decision by decision, action by action, over the next several decades.

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However this paper is not about the horrors of the economic downturn that have appeared in almost all shapes and sizes, and have had dramatic effects upon most human activities. But it hopes to represent a fundamental change in how sense-making and decision-making strategies can be achieved in more conscious, responsible and sustainable way.[1]

Research Design

For this research, a multiple case study approach[2] and in-depth thematic interviews[3] by individuals and groups were employed to investigate our ideas, thinking, processes, projects and institutions we use to make sense of and to build our futures.

Hundreds of people were interviewed. The interviews typically opened with a brief presentation of the research, after which the interviewees were guided by open-ended questions that were complemented by more specific ones. At the end interviewees were asked to name further contacts that could potentially be helpful in providing a deeper understanding of the research topics.

In addition to the interviews and confidential discussions, secondary documents and sources were consulted. These included a wide variety of material, from various relevant organizations to specific projects; some discussions merely pointed us in the direction of information contained in reports, news services and websites.

It would be naïve to believe that a theory could emerge solely from data. In every theory building research there is always a previously existing body of knowledge, and to claim ignorance of such existing literature will not benefit any research, vice versa it disguises the biases. This research builds on sense-making, decision-making, operational analysis, anticipation, foresight, prospective thinking and futures studies literature.

The results were achieved after iterating between the data, the relevant literature, and emerging ideas and constructs[4]. This process of iteration was repeated several times with different cases and people; in the end the new theory found its shape and form.

Shared Assumptions Established

It seems to me that for those who participated in this research there is a consensus on the three major reasons of dissatisfaction with current dominant modes of thought and action practices. I shall state them explicitly:

Firstly, the legacy of the Western tradition of *efficient cause being the primary focus of science and economics* is considered here erroneous and misleading. Its dominance in our thinking is also one of the reasons why many real-world problems appear intractable and are difficult to resolve. The difficulty arises when only single causes are sought, even though such problems arise from the interaction of multiple, underlying and interrelated causes.[5]

Secondly, our sense-making and decision-making *practices are set against an unchanging landscape*, where only a single element or few elements, if any, are extrapolated. Thus, is it any wonder that there is an inherent inability to deal with complex chains of causality and to take into consideration both top-down and bottom-up causes.[6]

1 Aaltonen 2010.
2 Eisenhardt 1989, Yin 1994.
3 Strauss & Corbin 1998.
4 Miles & Huberman1994.
5 C.f. Kaminska-Labbe & McKelvey 2006.
6 Aaltonen 2010.

Thirdly, *the classical idea of a fixed, permanent and absolute, which is simultaneously an acontextual truth*, should be replaced with a spatio-temporal approach. This ought to be done because the explicit consideration of a spatio-temporal context will necessitate new ways of understanding epistemology, methodology and leadership and help produce better futures.[7]

The theory emerging in this research has arisen in response to the limitations of our present modes of thinking. We hope we have a theory that builds a better understanding of the emerging landscape, and recognizes that there are multiple emerging cause and effect relationships on different levels. Furthermore, we emphasize the relevance of spatio-temporal context, which will be necessary in order to create more and better anticipatory and adaptive human systems, i.e. robust human systems.

Presenting the Theory

The theory according to which also the Figure 1 is organized represents the ontological basis in which the contents are relevant, insightful and contemporary observations. I claim that the theory is durable in time and helpful in various contexts over and over again, because it captures something essential about our existence as human beings, because it is first of all an ontological framework, not a methodological or epistemological one.

Our employment of time and space reveals opportunities for changes, where we previously had detected none.[8] As one of the contributors to research states "there are always opportunities for an opportunist", and the spatio-temporal framework in Figure 1 gives an idea of where to look for them. I deploy the old Greek concept of a chronotope[9], literally a place in time, in order to discuss and make sense of the spatio-temporal quality of the situation and the spatio-temporal responses that are relevant to it. When we face a problem or require a change, it comes equipped with its own relevant family of chronotopes. A different problem or a different change is always accompanied with different families of chronotopes, places in times; each one with its own unique structure.

A change in a spatio-temporal context requires a change in epistemology, methodology and leadership. When we move in Figure 1 along horizontal axis, from left to right, we move from a linear context to a disruptive one, in between them the degrees of order vary. However, if we move along the vertical axis, from the bottom up, we move from relevant histories to long-term visionary time scale. Furthermore, the reason why the line below, from left to right, is not straight as the imaginary line of the present moment should be, is because under the imagined, straight line is the history of relevant events. This shape thus allows us to reflect on what has occurred when hindsight analysis is used and how it should be used. Every numbered circle in the Figure 1 represents a specific spatio-temporal context and is placed in Figure 1 in its approximate position to enable us to discuss appropriate knowledge, ways of acquiring it and effective leadership.[10]

7 Aaltonen 2010.
8 Aaltonen 2009.

9 Chronotope is also employed in mathematics, and was introduced as part of Einstein's Theory of Relativity. It has been used in biology since 1925 when A.A. Uxtomskij presented it and in literary criticism since Mikhail Bahktin (1981) borrowed it from biology.
10 Aaltonen 2007.

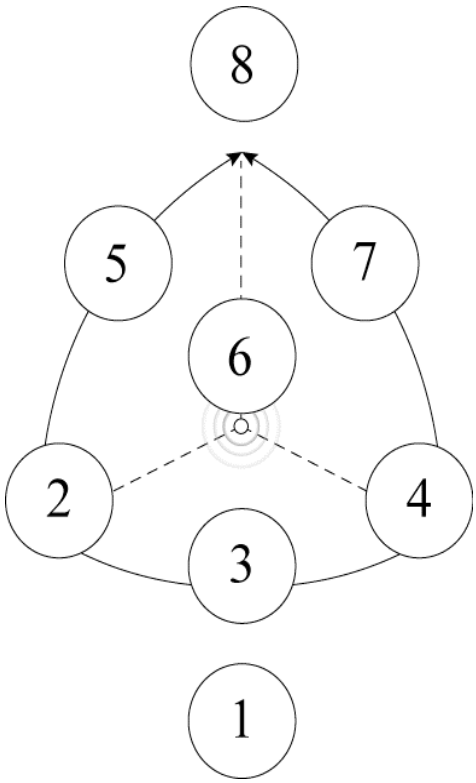

FIGURE 1. Outlining the theory.

In the introductory circle 1, I discuss how the human beings have comprehended the *emergence* of things, and how our understanding of causality has evolved since the time of Aristotle. Robert Rosen´s[11] Metabolism – Repair (M, R) systems and Niklas Luhman´s[12] interpretation of autopoesis systems lay the basis for an anticipatory and adaptive human *systems* theory in which the robustness of a system stems from the fact that past, present and futures states can influence the present sense-making and decision-making in the system. My mission is to reconnect the spatio-temporal *contexts* into formation of knowledge, use of methods and appropriate leadership.

The second circle – Colonizing Futures – in set mostly in linear context, and it explains how the Newtonian paradigm has become the most popular approach even outside the boundaries within which it was originally meant to work. However, it is not applicable in all human contexts.

Circle 3 – Revisiting Histories – sees human history as being multileveled, a place where various historical levels and accounts work as a causal force in the determination of present and future social realities in their own right.[13] I also place much attention on the relationship between language and history as well as to the narrative reasoning of our lives.

Set in the context of disruption circle 4 takes its headline from a statement by Singapore Vice Prime Minister in which the following idea was presented; because we cannot know the future, we should concentrate on something what we can do. It is entitled Building Intelligent and Flexible Systems.

Circle 5 – Preparing for Futures – describes how the art of prognosis, developed in the 15th century Italy in order to help avoid the pitfalls governments had had difficulties in evading, and to enable their overall preparedness for possible futures. The idea started to flourish in European courts and has turned into thousands of contemporary foresight projects.

The sixth circle liberates us from Newtonian or Cartesian views that see human mind in isolation, separated from an external reality.[14]

11 Rosen 1972, 1978, 1985.
12 Luhman 1986, 1995, 1997, 2000.
13 Koselleck 2002, 2004.
14 C.f. Hämäläinen & Saarinen, 2007, 2008.

Instead, we try to understand the human condition in terms of intersubjectivism and relatedness that is why the chapter is called – Relationships as a Cause.

Circle 7 – Probing Futures – works within disruptive futures. If we describe what we know as a sphere which is continuously growing, we should also consider that the area of contact with the unknown is expanding even more rapidly.[15] Often we cannot rely on the traditional scientific and industrial strategies to project, predict and program our futures by using our knowledge of the past as a base on which safety and innovation can be established. We need new theories and ideas to cultivate opportunities, facilitate experiments, and create a more open mindset.

The final circle 8 begins with the current Nordic debate about horizontal and shared leadership as an alternative for the traditional hierarchical leadership. It also demonstrates how leadership can be achieved in a multicultural and multi-organizational environment. I focus on the mission of the *Robustness* by reconnecting the spatio-temporal contextuality to leadership. Out of this reconnection comes the title: Leadership – Impact as Strategy.

Drawing the Conclusions

Within the coherent framework we can make explicit and understand the dependencies between different causal assumptions and spatio-temporal contexts. This transcends new perspectives and necessitates a different use of existing concepts. [16]

Our framework refers to the strategic landscape, to the nature of the environment where the work is carried out. It is considered that many things concerning our sense-making efforts and decision-making activities will change when we are more precise about the quality of the strategic landscape. The explicit recognition that there are different types of strategic landscapes where different causal assumptions apply – linear, disruptive and visionary – is the point of departure for increasing effectiveness in sense-making and decision-making; for building robust human systems.

Furthermore, my claim is that in every situation there are specific issues in specific times and spaces. Traditionally, in problem-solving and change management, we have relied too heavily on efficient cause and looked for a single or few causes to resolve a problem or to manage a change, when real-world problems arise from the interaction of multiple, underlying and interrelated causes. A solution cannot stem from a single chronotope, even a very accurate one, but from a family of relevant chronotopes that do not operate independently, but merge into a coherent configuration to resolve a problem or manage a change. ■

15 Virilio 2007.
16 Adam 1990, Adam 2004, Aaltonen 2009.

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