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About "Transforming the future: Anticipation in the 21st century," edited by Riel Miller

In this book, famous futurist Riel Miller and colleagues provide a major contribution that can be considered as a milestone to evolve Futures Literacy into a comprehensive conceptual and applied framework. Over 274 pages, the book is organized into three Parts and eight Chapters, and include a very useful glossary and index. More than 30 authors contributed to this impressive work.

In "Discovering anticipation in the 21st century: towards Futures Literacy?" (Part 1) Miller develops in Chapter 1 a comprehensive Futures Literacy Framework (FLF) presenting what Futures Literacy as a capability is about. For this, the author makes a clear distinction between different ways of conceptualizing the future, an ontological perspective, and different ways of creating knowledge about the future, an epistemological perspective. On the ontological side, starting with the postulate that the future can be seen either as closed system or a semi-closed/open system, this framework is connected to the Discipline of Anticipation which makes it possible for the authors to propose and explain different concepts starting with "anticipation-for-the-future" (exploring the future with a goal) and "anticipation-for-emergence" (exploring the future to make a different sense of the present). These are then connected with three different anticipatory systems (why the future is used): "preparation," "planning," and "novelty." On the epistemological side, the author differentiates two processes of creating knowledge about the future: a process where the future is seen as general and scalable and a process where the future is seen as specific and unique. As a result, six types (clusters) of anticipatory assumptions are identified, of which four ("forecasting," "destiny," "creative reform," and "self-improvement") are typically used in Futures Studies. The two other types are related to anticipation-for-the-future and the "novelty" anticipatory system.

This framework has a great value for futurists who want to reflect on their practice. It helps revealing what their (often implicit) anticipatory assumptions are when futurists engage in futures research and activities. This is crucial as, since the future only exists in the present as anticipation, using the future is really about using anticipation of the future, so the question is how do we anticipate the future, why and what for?. The FLF helps us not only to understand to what extent the ideas of the future actually colonize the future but also what ideas for the future are at work when we anticipate. The value of the FLF expands beyond this point as it can be used in developing the futures literacy of anyone who is not a professional futurist. I see it particularly useful when engaging in futures literacy capacity building, with the aim of making a person "…capable of using anticipation for different ends, in different ways and in different contexts."

In the chapter "The Discipline of Anticipation—Foundations for Futures Literacy," Miller et al. advocate for the development of anticipation as a discipline with the objective of avoiding the use of the future and futures studies to be "straightjacket" into the boundaries of a single discipline. This might sound a bit paradoxical but what the authors seems to have in mind is the constitution of what I would call a "transdisciplinary discipline."

Making anticipation a transdisciplinary discipline stems from the idea that using the future is also about taking novelty into account in our perception of the present. Since the idea-of-tomorrow will always colonize tomorrows, the value of anticipation as a discipline is to make us aware about our and others' idea-of-tomorrow. As a result, the authors distinguish three different ways of using the future, they respectively label "optimization" (predictable), "contingent" (expectable), and "open/novel" (knowable). The first two correspond to the familiar notions of "forecasting" and "foresighting". Both reflect an intentionality in the anticipatory process, an intentionality that is captured in either the idea of being prepared for what we believe will happen (being preactive) or being able to influence the future (being proactive). The third way is where the authors make their major contribution: using the future to sense and make sense of the present in a different way with the only intentionality of exploring novelty. At the heart of novelty lies the idea of "changing the conditions of change," applied to the way we anticipate.

In Chapter 3 "Towards a formal framework for describing collective intelligence knowledge creation processes that 'use-the-future'", Ehresmann et al. discuss how they intend to use a model of Memory Evolutive Systems (MES) to provide a proof of concept for the Futures Literacy Labs and move them to a prototyping stage, enhancing the methodology which is currently essentially empirical. It is also expected to provide insights on what could happen to change in the conditions of change if a large number of people became futures literate.

This chapter is full of promises about the potential contribution of MES to measure the capacity to be(come) futures literate in the framework of the FLLs. However, it could have been shorter because one can get lost from time to time in the detailed explanation of an approach that has not yet been applied. In addition, as it systematically refers to the FLLs, it could have been more appropriate to have it later in the book, at the end of Part 2.

Part II "Futures Literacy Laboratories" starts with Chapter 4 "Futures Literacy laboratories in practice" presenting the design and implementation of a new kind of FLL, the "FLL-Novelty." A FLL-Novelty entails typically three stages: reveal (participants'

anticipatory assumption), re-frame (futures with other assumptions), and re-think (the present through novelty).

The first stage aims at revealing the anticipatory assumptions of the participants: how they imagine the future. The second stage aims at transforming these assumptions, and the third stage aims at using them to sense novelty in the present. This process is presented as a sigmoid learning curve along a vertical axis of creativity and effort and a horizontal axis of time and experience. To me a Gaussian-shaped curve could have better represented the process as, once the stage of re-framing has been completed, the re-thinking process requires less effort if not less creativity. Such a curve would better reflect the acquisition of FL as the effort for creativity decreases while experience increases, a rupture point where FL could be assessed with the MES approach.

The authors explain and convincingly document how they deal with questions related to the implementation of the three stages. One issue remains however challenging: how to engage participants in re-framing? The solution proposed is to use an outside seed of disruption (a Learning Intensive Society) due to the difficulty to internally produce a disruptive seed since participants are not yet futures literate. This is a major issue and crucial work in progress as using an external seed has the main pitfall of imposing an idea of tomorrow to the new tomorrows the participants are invited to create.

In Chapter 5, edited by Bergheim, 14 case studies are presented, providing proof of concept for the FLL-Novelty. They cover a diversity of questions and locations which makes difficult to discuss them here due to space constraints. They do not only contribute to substantiate the FLF; they are also a source of know-how and knowledge about conducting FLLs. They show that the principles of the FLL-Novelty can be applied in diverse ways combining known tools that foster creativity and imagination. They show that using the future for novelty (or anticipation-for-emergence) is a powerful approach to develop practices about changing the conditions of change

Part 3 is about "Parallel and convergent developments" and entails three chapters which Riel Miller included as they "…reinforce the proposition that the emergence of the theory and practice of FL as a capability is part of humanity's practical efforts to find new ways to reconcile our understanding of human agency with the wonder of our complex emergent universe."

In Chapter 6 "Gaming Futures Literacy," Candy presents a competitive-collaborative game which engage participants in a reverse archeological exploration, finding a thing from an alternative future created from the combination of instructions given by predefined and open cards. The game creatively engages people about the future with the idea of "enabling constraints" making possible, within the limits of a scenario, to think about unknowns.

In Chapter 7, "An extended Futures Literacy process," Bergheim shares an experience conducted in Germany using about Positive Futures and well-being to illustrate the implementation of a FLL.

Finally, in Chapter 8, "Gender and the future," Milojević connects gender literacy and futures literacy in a brilliant reflection. I was so impressed by her points that I have decided to let the readers enjoy this chapter not daring to spoil them with comments…

This book is a milestone in the development of futures literacy as a capability and anticipation as a discipline and is potentially a critical juncture, as the culmination of a five-year research and a starting point for operationalizing futures literacy as a game changer (changing the conditions of change).

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