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THE DISCIPLINE OF ANTICIPATION: EXPLORING KEY ISSUES

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1. INTRODUCTION

Over the past few decades questions have periodically surfaced regarding the nature and basic features of Futures Studies (FS). Fruitful initial answers have been provided by what have now become classics of the field, such as the pioneering *Art of Conjecture* by De Jouvenel (1967) or the extensive *Foundations of Future Studies* by Bell (2003).⁵ More recently a series of workshops, codenamed the Futures Meeting (FuMee) – originally devised by Ted Fuller, Riel Miller, Roberto Poli, and Pierre Rossel – served to facilitate research on “futures” issues, focusing not on methods but on founding principles, cross-cutting foundations and key concepts that define the evolving field of futures studies.⁶ A recent issue of *On the Horizon* (2013:1) on *The Theoretical Basis of Futures Studies*,

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⁵ For a slightly less compressed reconstruction, see the first sections of Poli (2011).

⁶ FuMee emerged from two sources: the theory of anticipatory systems developed by Robert Rosen and brought to FS by Roberto Poli and some of the work carried out within the European program COST A22 (2004-2007: “Advancing Foresight Methodologies: Exploring new ways to explore the future” (see <http://www.costa22.dk/>). Four FuMee meetings have been held until now (Rovereto, Lincoln, Paris and Copenhagen); the 5th one took place in Lausanne (EPFL), Sept. 9-10, 2013. So far, only few selected papers from the first FuMee have been published (see the special issue of *Foresight* 2010:3 on “Anticipatory Systems and the Philosophical Foundations of Futures Studies”, edited by Riel Miller and Roberto Poli). UNESCO

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edited by Roberto Poli, adds further elements to the discussion. A few months ago, the Association of Professional Futurists (APF) asked some of its distinguished members (Peter Bishop, Jennifer Jarratt, and Riel Miller) to present their visions of FS; their papers are presently under preparation and will soon be made available. The present document arises from the UNESCO project, supported by the Rockefeller Foundation, named “Networking to Improve Global/local Anticipatory Capacities”.

This document starts from the underlying acknowledgment that FS as a whole is such an extremely rich and varied a field that any effort to straightjacket the field into the boundaries of a discipline will impoverish its richness. For this reason, we will work from within a delimited section of FS, which we call the Discipline of Anticipation (DoA).

2. THE DISCIPLINE OF ANTICIPATION

We discuss the DoA firstly by focusing our attention on the “Anticipation” component, then moving to the “Discipline” component.

2.1 The Discipline of Anticipation

All efforts to “know the future” in the sense of thinking about and using the future are forms of anticipation. Equally the future is incorporated into all phenomena, conscious or unconscious, physical or ideational, as anticipation.

The DoA covers all “ways of knowing” the later-than-now as anticipation, from those forms of anticipation that are observed, for instance, in a tree that loses its leaves in the Autumn to human planning that attempts to colonize the future and efforts to make sense of emergent novelty in the present by finding inspiration in systemically discontinuous imaginary futures. Looked at as a “way-of-knowing” the DoA addresses the codification of the myriad of systems of anticipation, both conscious and non-conscious. The DoA develops, sorts, and diffuses descriptions of the processes/systems of anticipation or how the later-than-now enters into reality.

One important rationale for investing in the DoA is that it may improve the conscious use of the future in the present. This rationale takes as its starting point the contention that perfect anticipation of change is both practically and theoretically not achievable in our universe.⁷ On the practical side the trouble is the unavoidable incompleteness of both the data and models used to attempt to predict the future. On the theoretical side the impediment to predicting tomorrow is that our universe is “creative” in the sense that novelty happens – provided that suitable enabling pre-conditions are given. If we accept this latter reason as part of the explanation for the change that characterizes our universe then humanity’s conscious relationship to reality faces an additional challenge – how to

⁷ Raising awareness of the limitations of the forecasting approach does not mean that we negate the reality of common practices and the myriads of situations where an immediate or less immediate future is anticipated using probabilistic approaches with “reasonable success”. The fact that excessive dependence on these methods not only generates the costs of false-negatives and false-positives but also blinds us to the fruit of non-probabilistic or complex ways of thinking does not erase the utility of this currently dominant approach.

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take novelty into account in our perceptions of the present. This is where the DoA has a particularly important contribution to make.

Specifically, the DoA provides ideas and tools that can alter and expand the role of anticipation in shaping what humans perceive, including our capacity to make sense of novelty. This is because the theory and practice of the DoA develops and extends the categories and methods of anticipation that can be used to improve discovery and sense making. By enlarging and enhancing the analytical and operational approaches to incorporating the later-than-now into our thinking the DoA can improve anticipatory capacities in a wide range of circumstances. Initially the DoA helps anticipatory thinking to move beyond the approaches that most humans acquire without effort or reflection, such as our “natural” aptitude for understanding both the future trajectory of objects in motion, helping us to avoid being hit by cars, and direct cause and effect, helping us to avoid putting our hand on a hot stove.

Subsequently, as the reach and refinement of the discipline benefits from more reflection and purposeful experimentation it may help to create the conditions for other novel changes. In this respect the DoA is like other “disciplines”, it is an effort to develop a fuller classification of various types of anticipation and a more systematic inventory of the ways in which anticipation is understood by different sciences and disciplines (biology, anthropology, sociology, cognitive science, etc.) in the service of human knowledge. Like all such efforts to gain a better understanding of a subject there is no assurance that the knowledge so acquired will of necessity serve good or ill, nor generate only intended consequences.

While anticipation has been widely studied within a number of different disciplines – including biology, anthropology, cognitive and social sciences – to date nobody has collected and systematically compared the results. A preliminary survey by Poli “The Many Aspects of Anticipation” (2010a) and a bibliography by Nadin (2010) signal the scale of the task. So far two figures stand out as central contributors to the discipline of anticipation: the mathematical biologist Robert Rosen (1985, 2000) and the anthropologist John W. Bennett (1996). The former established the theory of anticipatory systems; the latter the connection between anticipation and resilience. The issue of anticipation is presently a hot topic. The following are a few selected recent references to anticipation (for a more extensive list, cf. Poli 2010):

- Anticipation in biological, psychological, economic and social systems – aka the theory of anticipatory systems (Louie 2009, Louie and Poli 2010, Poli 2009, 2010, 2011).
- Anticipation and Resilience (Almedom et al. 2007, Almedom et al. 2009, Martin-Breen and Anderies 2011, Zolli and Healy 2012).
- Anticipation and Futures Literacy (Miller 2006, 2007, 2011, 2012).
- Anticipatory Governance (Fuerth 2009, 2011, Fuerth and Faber 2012, Karinen and Guston 2010).

Not surprisingly, from the point of view of FS and the DoA, the primary focus of attention falls on explicit anticipation as a combination of capacities that allow human

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beings to consider and evaluate the present in light of the way they imagine the future. In this sense, explicit anticipation (individual and collective) can be considered as a key element or contributor to the human activity of decision-making. Anticipatory activities play a key role in both the search for available choices in the present and the form of agency in which such choices are conceived and eventually acted upon.

One use of anticipation is as a means to imagine how actions might play out in the future, although such simulations can only be tested once future realities happen. Simulations of this kind can be useful to think about the consequences of decisions, including errors that could turn out to be irrevocable. As Fuerth and Faber (2012) aptly note, “reality has no ‘do over’ function”, and therefore, “the ability to experiment in a virtual setting safely, without suffering real-world consequences of trial-and-error, is an invaluable tool”. Clearly it calls attention to the potentially unforgiving nature of reality and the costs arising from what may turn out to be wrong decisions, either in the short or the longer term. But excessive fear of actual error, the desire to always be so well prepared, so perfectly planned, that the target is never under- or over-shot, can crowd out one of the other strands of anticipation, learning from failed or mistaken experiments by reconsidering the anticipatory assumptions that help us make sense and evaluate the present. This strand of anticipation can be obscured when we lose sight of the fact that conscious efforts to prepare for the future or shape it are but part of a larger mix of elements that make up difference and repetition in the emergent present, including novelty that cannot be known in advance.

The importance of the DoA may well be that it enables a more explicit and considered approach to these two strands of anticipation. Bringing additional perspective and systematic knowledge, not only to efforts at preparing for external events that are assumed to be predictable and to planning that aims to achieve specific goals in the future, but also to the less familiar challenge of grasping the meaning of what may look like a failed experiment yet turns out to be an emergent success when judged against a new framework. One may be thought of as conscious anticipation that addresses closed systems and the other anticipation that addresses open systems⁸. Obviously both are important as part of humanity’s effort to make choices in the present, but the anticipatory systems that make up the former strand are much more familiar than the latter.

In conclusion to this sub-section it is worth noting that much of our understanding of anticipation remains cursory and fragmentary. Yet even if this leads us to refrain at this point from making strong or general claims regarding the nature and role of DoA it seems fair to note that anticipation does play a basic role in many different fields from biology, sociology, and economics to medicine and architecture, and politics. Thus developing our understanding of anticipation and the DoA would seem to be of general relevance to humanity’s endeavor to better grasp our reality.

2.2 The Discipline of Anticipation

⁸ For a discussion of a dualistic “scenaric stance” see (2011) Ogilvy, Jay, “Facing the Fold: from the eclipse of utopia to the restoration of hope”, *Foresight*, Vol. 13, Issue 4, Pp. 7-23. And a comment by Miller (2011) same issue.

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Human efforts to appreciate the nature and functioning of anticipation in the world around us are undertaken on the basis of specific concepts and practices (tacit or explicit). This is the field of knowledge that explores, invents, accumulates, and transmits the frameworks and information that make up our understanding and experience of anticipation. The DoA as a field of knowledge is made up of the many different “ways of knowing” anticipation. The term DoA can be applied to both the practice of a skill (an apprentice learns a discipline from a master) and the parameters that define (delimit) a body of knowledge that is “studied” (a student acquires the knowledge of a discipline).

As a field of knowledge the DoA can be sustained and improved through scientific effort. Like similar fields of practice and theory of knowledge, such as economics or sociology but also more applied crafts, the field of knowledge provides specific ways of knowing – describing – understanding such activities. Anticipation is pervasive, but there are specific anticipatory processes that can be identified, used, and made the subject of hypothesis testing through experimentation and analytical efforts. A better understanding of different forms of anticipation is helpful for engaging in economic and sociological analysis, just as theories and practices that help to understand economic and sociological phenomena can clarify aspects of anticipation.

The DoA, like other fields of knowledge, has sub-fields and there is a history and weighting of different sub-fields. Furthermore certain sub-fields are more preponderant in other fields of knowledge, such as forecasting in economics or climate science. Also, like with the emergence of other fields of knowledge, historical context matters. In the case of DoA a series of factors have served to push⁹ and pull,¹⁰ enable and demand, the development of a more sophisticated body of knowledge.

Apart from content side (to which we shall soon return), a complementary way to characterize the DoA is to take into consideration the accountability criteria that its practitioners should follow. The simplest way to summarize this aspect is to take FS as the covering term, the most general umbrella including all the ways to study, think and use the future – ranging from visionary and utopian futures and pop futurism to participatory, critical or integral futurism and the extrapolatory projections of simulations, formal modeling and forecasting. FS is inclusive. Every aspect, type, and way of including the future within one’s analysis, theories or actions is a legitimate component of FS.

Some components of FS are more subject than others to constraints, however. In particular, futures exercises conducted by professionals and futures teaching require forms of accountability that may be inappropriate for the field of FS as a whole – such as responsibility toward clients and students, and basic research. We shall adopt the expression “DoA” for this subfield of FS.

Two further demarcations help in distinguishing different versions of the DoA (or differently nuanced DoAs). Firstly, professionals and academics have partly different needs and respond to different accountability criteria. Secondly, two preponderant foci

⁹ For instance complexity theories offered new tools for thinking about the future.

¹⁰ Efforts to elaborate strategies in the face of changes in the conditions of change have also provided practical experiences – a demand side pull for the elaboration of the DoA.

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can be distinguished when looking across current theory and practice within the DoA. Using familiar labels from the foresight community, futures generated by closed anticipatory assumptions are part of the “forecasting” strand, futures invented by combining open and closed anticipatory assumptions are part of the “foresight” strand.¹¹ Much forecasting practice rests on the well-established modeling approach that tests predictive hypotheses using past data. If the model and data are deemed to accurately describe the past behavior of the variable(s) being predicted the model is considered more or less robust for extrapolatory purposes. Economic and climate change forecasts work along these lines. Sophisticated forecasters, working within the carefully developed and tested closed models used for extrapolation of variance can integrate advanced systems theory – together with the implied issues of multi-stability, discontinuity, phase transitions, etc. However these simulations circumscribe the imaginary future within the probabilistic premises required to use models to project the past into the future.

Foresight as a practice, when distinguished from forecasting, is formally premised on the unknowability of the future and hence attempts to be more systematic in imagining futures that are not constrained by projecting the past. This does not mean that foresight practitioners do not use extrapolation and models to imagine the future. Indeed they can use probabilistic statements as spring-boards for imagining the future and can even, in certain circumstances, aim to provide a probabilistic assessment of the future. However foresight processes usually take a different path from that of the forecaster. In general foresight claims both a more creative and participatory mission, aimed at discovering new options and exploiting different forms of knowledge. As a result, foresight as a practice has experimented, somewhat haphazardly as is wont at the outset of new frameworks, with the challenge of both inventing and making sense of numerous new methods for generating and interpreting anticipatory assumptions and imaginary futures.

Given the divergent priorities of these two groups of practitioners it is not surprising that there has been relatively little cross-fertilization or joint efforts. Overcoming this divide could be quite productive since there are numerous issues, such as Futures Literacy and complexity (see below), that are of relevance to both groups.

Summarizing, a discipline offers at least three advantages:

- **Depth:** by distinguishing its focus, a discipline can develop an expertise (specialization), deepening its theory and practice;
- **Identity:** through such specialization, both the practitioner and the layperson can identify the discipline as concerned with a specific subject-matter and why it is trustworthy;
- **Legitimacy:** depth and identity help to foster responsibility and legitimacy (which include reputational assets and attention to excellence) (Miller 2012, 39-40).

¹¹ While these terms do not fully capture all the nuances of FS as practice, in particular the nature and range of open futures, the current discourse falls roughly into these two camps.

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Deciding whether the DoA, as we see it, is a discipline and what makes us think so and with what degree of legitimacy, is a challenging task. As an initial contribution the following addresses three questions:

1. What is a discipline, what do we mean by that?
2. Is what we call the DoA a discipline? What would qualify it for that claim?
3. What are the key components of the DoA as a discipline?

3. THE IDEA OF A DISCIPLINE AND THE ISSUE OF DISCIPLINARITY

Etymologically, “discipline” is related to the “code of conduct” of a “discipulus”, a person subjected to an explicit training. With the coming of age of modern science the term “discipline” started to encompass the idea of a sub-field of knowledge, bearing its own focus, knowledge models, procedures and set of issues to work upon. The DoA is a discipline precisely because it has its own territory of knowledge (the future or, better, the future-as-linked-to-the-present). The disciplinarity of the DoA includes both the clarification of the relevant models, procedures and issues (which to some extent may overlap with those of FS and eventually with those of other disciplines too) and the criteria of accountability mentioned in Section 2 above.

If we push this proposition further, we must specify the knowledge territory addressed by a discipline and the ways to address this knowledge territory. The following are some general features presented by most if not all the disciplines we are aware of:

- **A focus (or a variety of foci)** characterizing the discipline. Clarifying the foci of interest is more relevant than establishing clear-cut boundaries, because the latter can overlap with an endless number of other disciplines.
- **Key theories**, explanatory of some real world references or issues.
- **Public traces**, in the form of documents that can be analyzed and discussed, and eventually revisited and reused years afterwards. In this sense, building a discipline is a historical process that may or may not be cumulative, combining creation and destruction as well as preservation or maintenance – which determines that status of the discipline’s assets at any point in time. Furthermore, the process itself of generating traces is valuable and enables different learning dynamics to be distinguished and addressed.
- **Peer-evaluation** of some kind regarding the work of participants by other participants, occasionally participants from other disciplines. The habit of referencing the work of others upon which, or in contrast to which, one attempts to build new knowledge is considered a fair code of conduct. Two sets of criteria apply: (1) standard practices for complying with scientific debating and evaluation patterns; and (2) practices specific to the discipline, to be identified and discussed within the DoA arena, and related to the particular issues and challenges of the DoA.

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- **Assessment.** This is perhaps the most demanding aspect, in part because there are at least two relevant paradigms. Taking the dominant view of the relationship between prediction and agency, embodied in planning, there is a dual problem for assessing the performance of foresight activities: a) strictly speaking there are no current data about the future and therefore evaluations of futures exercises cannot be based on the realization or not of pre-defined outcomes, and b) there is no way to know if by making a prediction in the present (e.g. Y2K bug) the future outcome will be altered (was there or was there not an actual Y2K threat to begin with). An alternative paradigm for evaluation starts from a different conception of the use of the future and its relationship to agency. This might be called the anti-planning paradigm. Here the evaluation of anticipatory activity is not related to plan fulfillment or the accuracy of predictions in divining outcomes. Instead success is based on the constant diversification of imagined futures, including non-predictive and non-normative descriptions of tomorrow, with the outcome being the expansion of sense-making in the present. Despite, or perhaps because of these difficulties in assessing foresight practice, the DoA may offer a number of solutions by enhancing the viability of input-based assessment, checking to see if the ingredients and processes respect state-of-the-art knowledge. Like all disciplines the DoA is one approach to “quality control” based assessment, including critical reflections on the assumptions of the discipline.

4. KEY THEORETICAL COMPONENTS OF THE DOA

As with every other discipline, the DoA exploits a variety of methods. This document, however, intentionally leaves aside a discussion of these diverse methods in order to remain focused on the meta-level disciplinary aspects. In other words we are concerned with how our understanding of the functioning of the discipline can be organized. Here, as a preliminary proposition, we present two ways of understanding how the DoA is organized, namely Futures Literacy (FL) and complexity.

4.1 Futures Literacy

Skipping over the history of anticipatory thinking, the current situation is one where the capacity to understand anticipation is becoming both more operationally doable and desirable. The emergence of this capacity, in a way that may be compared to the push and pull of the emergence of the universal capability to read and write during the industrial revolution, can be called Futures Literacy (FL) (Miller 2006, 2007, 2011, 2012). As with reading and writing, FL entails the capacity to decipher and categorize as well as produce (design, conduct and interpret) explicit (volitional and intentional) processes of anticipatory knowledge creation, as a necessary and ordinary skill. FL, like language literacy, involves the acquisition of the know-what, know-how, know-who and know-why (to which we could also add problems of know-when), required to “use the future” appropriately – i.e., fit for purpose. FL is the knowledge and skill of how to use the future, it is a familiarity with anticipatory processes.

What distinguishes FL from the common everyday capability to use the future to cross the street without being hit by a car or planning to go to the movies with friends is that it requires an explicit awareness of distinctive anticipatory systems and the associated logic that connects specific tools to specific tasks. At a general level, conscious human

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anticipatory activities (either explicit or implicit) are a way of generating the imaginary futures needed to understand and act in the present. Concerning explicit anticipation, three main uses can be distinguished: optimization, contingency, and novelty. Optimization futures can be used to “colonize” the future on the basis of closed anticipatory assumptions that inform extrapolation; contingent futures can be used to prepare for anticipated surprises, but as preparation cannot, by definition, take into account unknowable novelty this type of anticipation is also closed; finally, open or novel futures have the potential to expand perceptions of the present beyond what is apparent on the basis of closed optimization or contingency futures (Miller 2012, 41).

The point of distinguishing these three categories is to assist with the challenge of linking specific tasks to specific methods or approaches for both thinking about and shaping the future.¹² Because optimization actively attempts to impose patterns from the past on the future it privileges causal-predictive methods, often implemented through formal (usually algorithmic) models running historical data. Contingency planning is how we try to prepare for already recognized possible surprises (often with the aim of “surviving” or continuing without systemic disruption). Using novel futures to discover new ways of making sense of the emergent present provides one way of taking advantage of the unknowable as it starts to become knowable, enhancing the capacity to discover the present. Novelty includes objects and processes emerging from our activities and the subsequent actions we exert upon and with them.

These three ways of using the future are manifested in the world around us in distinctive ways. People using the future as optimized knowledge tend to understand reality as deterministic and manipulable – in the sense that future problems are perceptible and can be directly influenced. Many of the familiar and most trusted tools deployed by those using the future for optimization involve explicitly closed system dynamics and trend extrapolation – all close to forecasting and predictive scenario building. Contingency planning often deploys a broader range of methods (such as the Delphi method and simulations). Preparation of this sort can include within system innovation and openness as rehearsing a crisis can reveal endogenous unknown unknowns. Finally, efforts to invent and appreciate emergent novelty call, on the one hand for more modesty about what is knowable in the present and expected in the future, and on the other hand, more ambition in imagining the future in order assist with the appreciation of exogenous unknown unknowns. Making sense of novelty calls for a greater capacity to invent and explore openness in all its forms. This is what makes the DoA timely, it reflects the needs and resources currently pulling and pushing the development of the capacity to embrace novelty.

Distinguishing three ways of using the future provides a practical analytical framework for thinking about the future. By analyzing how people are using the future this framework makes it easier to match tools to tasks. However, clearer criteria for assessing how and to what end the future is being used does not mean that at any given time people, communities or institutions use only one approach. In daily life a multiplicity of ways of using the future, a range of distinct anticipatory systems and processes, are deployed simultaneously. Differentiating three main types of future is a conceptual tool for better

¹² See the section on complexity.

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classifying and understanding the way in which communities and other relevant subjects use the future.

All three uses of anticipation can serve human intention and volition, including the desire to assure individual, organizational and species resilience. By providing distinct categories and methods for integrating the future in the present, the practice of the DoA may enhance the capacity of people, communities and organizations to manage and take advantage of the stress and excitement generated by the only certainty we know – constant change.

While these three categories are derived from extensive experience in concrete anticipatory activities, they are in need of some theoretical polishing. As they stand, these three categories guide practitioners, provide clues for varying perspectives and levels of analysis. As the DoA develops we hope to provide a more comprehensive analysis of the structural features (including other ways of using the future still to be documented), overlapping practices, and dynamic inter-connections.

4.2 Complexity

During the past sixty years complexity has been defined in so many different ways that the term risks becoming meaningless. Furthermore, complexity is one of those issues that quickly veers into difficult technicalities. For the DoA the importance of complexity is that it calls for an awareness of different anticipatory systems. One of the simplest ways to define complexity is to distinguish “complex” from “complicated” problems and systems. Complicated problems originate from causes that can be individually distinguished; can be addressed piece-by-piece; for each input to the system there is a proportionate output; the relevant systems can be controlled and the problems they present admit permanent solutions. On the other hand, complex problems and systems result from networks of multiple interacting causes that cannot be individually distinguished; must be addressed as entire systems, that is they cannot be addressed in a piecemeal way; they are such that small inputs may result in disproportionate effects; the problems they present cannot be solved once and for ever, but require to be systematically managed and typically any intervention merges into new problems as the result of the interventions to deal with them; and the relevant systems cannot be controlled – the best one can do is to influence them, learn to “dance with them” as Donella Meadows aptly said (Meadows 1999).¹³

The traditional, bureaucratic structure adopted by organizations and institutions derives from an understanding of systems and problems that precedes the discovery of complexity. These structures are tailored to addressing “complicated” – not “complex” – systems and problems: they work as if problems could be addressed individually and in a piecemeal way, with outputs systematically proportionate to relevant inputs, they aim at managing and controlling the underlying systems. Furthermore, if we expand our

¹³ The following are some further aspects that a less cursory analysis will have to consider: (1) the “complicated” perspective point tends to work with closed systems, while the “complex” perspective point works with open systems; (2) the former naturally adopts a zero-sum framework, while the latter can adopt a positive-sum framework; (3) the former relies on first-order systems, while the latter includes second-order systems, that is systems able to observe themselves (which is one of the sources of their complexity).

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consideration of change to incorporate novelty – discontinuity that is unknowable in advance – there is the challenge of being in two (or more) frames at once. How to develop the capacity to see and act in ways that take into account incompatible but coexisting systems? These are situations where taking the point-of-view of one system not only renders the other invisible but often expresses an existential conflict with the new system. The problem that surfaces here is dramatically urgent: while there is considerable expertise and experience with the invention and implementation of bureaucratic structures meant to act within the existing framework of agency – how to use the future for optimization and contingency, we still are in the deepest fog about how to build up anticipatory structures able to organically deal with complex problems and systems.¹⁴

5. IS THE DOA AN IMPROVEMENT?

One of the main justifications for further developing the DoA is the contention that it may improve the way humanity uses the future. However, in order to determine if does or does not calls for some way of assessing if the DoA actually enhances use of the future by foresight practitioners and others. The obvious problem from within the existing paradigm, as already noted above, is how to assess what has still to become actual. From the point of view of the present, like when a decision-maker makes a choice regarding how to use the future, it is not very comforting that the only way to know if one particular use of the future (a specific anticipatory system or set of anticipatory systems) is superior to another is once it is too late, i.e. a long time later. Although such ex-post assessment may partially work to build up a track record in dealing with “optimization” and contingency futures, such approaches shed no light on false-negatives (futures that did not occur because the prediction altered the outcome) nor on what went unseen or remained incomprehensible because imagining closed futures obscured the emergent present.

The intractable nature of this assessment problem emerges clearly if we examine the Foresight Maturity Model (FMM, Grim 2009). The FMM is designed to help identify the key areas of foresight that could best benefit from focus, allowing resources to be optimized for the most overall benefit. Furthermore, the FMM provides a means to assess progress in a measureable way. The two main features of FMM are (1) devising the main steps of a foresight exercise, as developed by Hines and Bishop (2006) and (2) identifying the series of basic maturity levels (for more details see Table 1 below). The main purpose of FMM is to assess the capability of organizations and institutions to develop strategic foresight by relying on the concept of best practice, a concept that is often elusive (for discussions of the problems surrounding “best practice” see: Coote, Allen and Woodhead 2004, Auspos and Kubish 2004, Foot, Raleigh, Ross and Lyscom 2011). However, apart from efficiency issues (i.e., debates on performance measurement problems), the very idea of “best practice” seems to make little sense for FS, because “best practices” can obstruct efforts to find innovative ways to make sense of emerging challenges.

¹⁴ A few months ago the *Journal of Futures Studies* circulated a call for paper for a special issue, edited by Roberto Poli, on “Anticipatory Governance”, to be published in 2014.

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Disciplines of a Foresight Exercise	Basic Maturity Levels for Each Discipline
Leadership (capacity to translate foresight into action on an ongoing basis)	Ad Hoc (being only marginally aware of processes; most work is done without plans or expertise)
Framing (capacity to identify and solve the right problems)	Aware (being aware that there are best practices in the field; learning from external input and past experiences)
Scanning (capacity to understand what's going on in the immediate environment and in the world at large)	Capable (having a consistent approach for a practice, used across the organization, which delivers an accept-able level of performance and return on investment)
Forecasting (capacity to consider a range of future possibilities)	Mature (investing additional resources to develop expertise and advanced processes for a practice)
Visioning (capacity to decide what the organization wants in the future)	World-class (being a leader in its field, often creating and disseminating new methods)
Planning (capacity to develop plans, skills, and processes that support the organization's vision)	

One very important blind spot is the absence of complexity in the picture, leading to rather optimistic explanations, in particular for framing, scanning and forecasting activities.

For these reasons, we need a more nuanced framework. Let us call it “Anticipatory Capability Profile” (ACP). ACP is composed of the three components in its name: The **Anticipatory** component distinguishes among the different ways of using the future (for instance, according to the different ways of using the future distinguished by FL). The **Capability** component distinguishes among the different frameworks adopted by professional futurists for performing their exercises. As a preliminary approximation, one can exploit the difference between “modeling” and “reframing” mentioned in Section 1 above. Finally, the **Profile** component puts together the components characterizing Anticipation and Capability, specifying which constraints they should respect. Needless to say, the above is only a rough skeleton. Much work will be needed before being able to construct an effective assessment framework by seeking, inventing and experimenting with different ways to operationalize the distinct dimensions.

6. CONCLUSION

The DoA is in its early stages of development. In this regard, the DoA is not different from any other discipline (or science for that matter). Changing conditions give rise to changing needs and capabilities. The DoA reflects a range of convergent and divergent aspects of the present. There is the ascendance of new theories of anticipation and

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complexity. There is the decline in the effectiveness, both in terms of outcomes and perceptions, of old ways of using the future. The DoA is not born full-blown, it will require considerable work to enhance both the theory and practice – a fertile dialectic. Efforts are already underway in a wide variety of places and institutions, such as the University of Trento where there is a new UNESCO Chair in Anticipatory Systems and in many other parts of the world, including in Africa, Europe, Latin America and Asia, as a global network begins to take shape. UNESCO aims to nurture this conversation, playing its role as a laboratory of ideas and a catalyst for elaborating shared sense-making frameworks. Like all such efforts there is no way to tell in advance if the effort will be for good or ill, what can be affirmed is that such an effort is intended to contribute to the scientific aspiration of gaining a better understanding of the world

REFERENCES

- Almedom, A.M., Tesfamichael, B., Mohammed, Z. S., Mascie-Taylor, C.G.N., and Alemu, Z. 2007. “Use of ‘Sense of Coherence (SOC)’ Scale to Measure Resilience in Eritrea: Interrogating both the Data and the Scale”, *Journal of Biosocial Science*, 39, p. 91-107.
- Almedom, A. M. 2009, “A Call for a Resilience Index for Health and Social Systems in Africa”, *Issues in Brief No. 10* Boston University, Boston, Frederick S. Pardee Center for the Study of the Longer-range Future.
- Auspos Patricia, and Anne C. Kubisch 2004. *Building Knowledge about Community Change*, The Aspen Institute.
- Bell, Wendell 2003. *Foundations of Futures Studies: History, Purposes and Knowledge: Human Science for a New Era*. 2 vols. New Brunswick & London: Transaction Publishers.
- Bennett, J. W. 1996, *Human Ecology as Human Behavior: Essays in Environmental and Development Anthropology*, New Brunswick and London, Transaction Publishers (2nd ed 2002).
- Coote, Anna, Jessica Allen, and David Woodhead (2004). “Finding out what works”, The King’s Fund.
- de Jouvenel, Bertrand 1967. *The Art of Conjecture*. London: Weidenfeld and Nicholson.
- Foot, Catherine, Veena Raleigh, Shilpa Ross, and Tom Lyskom (2011), “How do Quality Accounts Measure Up?”, The King’s Fund.
- Fuerth, Leon S. 2009. “Foresight and Anticipatory Governance”, *Foresight*, 11, p. 14-32.
- Fuerth, Leon S. 2011, “Operationalizing Anticipatory Governance”, *Prism* 2, p. 31-46.
- Fuerth, L.S. with Evan M.H. Faber (2012), “Anticipatory governance. Practical upgrades” (http://www.gwu.edu/~igis/assets/docs/working_papers/Anticipatory_Governance_Practical_Upgrades.pdf)
- Grim, Terry 2009. “Foresight Maturity Model (FMM): Achieving Best Practices in the Foresight Field”, *Journal of futures studies*, 13, pp. 69-80.

Scoping Global/Local Anticipatory Capacities

- Hines, A. and P. Bishop 2006, *Thinking about the Future: Guidelines for Strategic Foresight*, Washington, Social Technologies.
- Karinen, R. and D. H. Guston 2010. "Toward Anticipatory Governance: The Experience with Nanotechnology." In M. Kaiser, M. Kurath, S. Maasen and C. Rehmann-Sutter, eds., *Governing Future Technologies: Nanotechnology and the Rise of an Assessment Regime*, Dordrecht, Springer, p. 217-232.
- Louie, A. H. 2009. *More Than Life Itself: A Synthetic Continuation in Relational Biology*, Frankfurt, Ontos Verlag.
- Louie, A.H. and R. Poli 2011. "The Spread of Hierarchical Cycles", *International Journal of General Systems*, 40(3), p. 237-261.
- Martin-Breen, P. and J. M. Anderies 2011. *Resilience: A Literature Review*, The Rockefeller Foundation.
- Meadows, Donella 1999. "Leverage Points. Places to Intervene in a System" http://www.sustainer.org/pubs/Leverage_Points.pdf
- Miller, Riel 2006. "From Trends to Futures Literacy: Reclaiming the Future", *Centre for Strategic Education*, Seminar Series Papers, No. 160 (Melbourne, Australia, December).
- Miller, Riel 2007. "Futures Literacy: A Hybrid Strategic Scenario Method", *Futures: The Journal of Policy, Planning and Future Studies*, 39, pp. 341-362.
- Miller, Riel 2011. "Futures Literacy. Embracing Complexity and Using the Future", *Ethos*, 10, October, pp. 23-28.
- Miller, Riel 2012. "Anticipation: The Discipline of Uncertainty", In Andrew Curry, ed., *The Future of Futures*, Association of Professional Futurists, Houston, Texas.
- Riel Miller and Roberto Poli, eds. 2010. *Anticipatory Systems and the Philosophical Foundations of Futures Studies*, special issue of *Foresight*, 12(3).
- Nadin, Mihail 2010, "Annotated Bibliography. Anticipation", *International Journal of General Systems*, 39(1), pp. 35-133.
- Parker, J., Tiberi, L. J., Akhilgova, F. T. and Almedom A. M. 2013. "'Hope is the Engine of life'; 'Hope Dies with the Person': Analysis of Meaning Making in FAO-supported North Caucasus Communities Using the 'Sense and Sensibilities of Coherence' (SSOC) Methodology", *Journal of Loss & Trauma*, 18(2), p. 140-151.
- Poli, Roberto 2009. "The Complexity of Anticipation", *Balkan Journal of Philosophy*, 1(1), 19-29.
- Poli, Roberto 2010. "The Many Aspects of Anticipation." *Foresight*, 12(3), 7-17.
- Poli, Roberto 2011. "Steps Toward an Explicit Ontology of the Future". *Journal of Futures Studies*, 2011, 16(1), pp. 67-78.
- Poli, Roberto, ed. 2013a. "The Theoretical Basis of Futures Studies", *On the Horizon*, 21:1.
- Poli, Roberto 2013b. "Overcoming Divides", *On the Horizon*, 21:1, pp. 3.14.

Scoping Global/Local Anticipatory Capacities

- Rosen, R. 1985. *Anticipatory Systems. Philosophical, Mathematical and Methodological Foundations*. Oxford, Pergamon Press (2nd ed Springer 2012).
- Rosen R. 2000. *Essays on Life Itself*. New York: Columbia University Press.
- Slaughter, R.A. 2004. *Futures Beyond Dystopia. Creating Social Foresight*, London and New York, Routledge Falmer.
- Zolli, A. and Healy, A.M. 2012. *Resilience. Why Things Bounce Back*, New York, Free Press.

2.

COMMUNITIES OF PRACTICE AND KNOWLEDGE CREATION¹⁵

Ilkka Tuomi

INTRODUCTION

In the last two decades, the concept of Communities of Practice (CoP) has become one of the dominant constructs in initiatives that support knowledge creation and organizational learning. Today, Google Scholar gives over 30,000 references to academic articles that use the concept. One of the main landmark contributions by Brown and Duguid (1991) has now been referenced in over 7,000 articles.

The idea of communities of practice as an important unit of analysis and intervention in learning and knowledge creation has multiple sources, some of which will be described below. In this background paper, I highlight those key characteristics of CoPs that need to be considered in the UNESCO Scoping Project. I will show that different interpretations of the concept will lead to different practical choices in setting up the regional workshops.

CoPs in the PARC

The Community of Practice concept emerged around the Institute for Research on Learning (IRL), towards the end of the 1980s. IRL was set up in 1986 on the initiative of John Seely Brown, then Chief Scientist at Xerox Palo Alto Research Center. The objective of IRL was to study learning in all forms and settings. Several of the early researchers at IRL had background on anthropology and ethnographic methods, and they were particularly interested in how learning occurs in different cultural and practical settings and beyond formal educational systems.

One important starting point was Julian Orr's (1986, 1996) study on how Xerox technicians learned to maintain copying machines leased to Xerox customers. Orr observed in his ethnographic studies that maintenance technicians relied on extensive informal communication to learn the tricks of the trade. Formal training and repair manuals were only a tip of the iceberg and much critical knowledge was shared among peers in informal ways. To become a competent maintenance technician, you had to be part of the community, sit around the same coffee and lunch tables, and know the same stories.

¹⁵ This working paper discusses the origins and evolution of the concept of “community of practice.” It clarifies key aspects of the concept and links it with related ideas, with the aim of supporting the development of research methodology for the UNESCO project “Networking to improve global/local anticipatory capacities,” financed by the The Rockefeller Foundation. Oy Meaning Processing Ltd. 10 June 2014

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This idea of community as a locus of learning was elaborated at IRL, among others, by Jean Lave and Etienne Wenger (1991). Jean Lave was a cultural anthropologist, who had studied different forms of apprenticeship in different cultural settings. Lave and Wenger extended this anthropological approach to study how members of Yucatan traditional mid-wives, meat cutters, navy quartermasters and native tailors became competent members of their practice. Partly influenced by Lev Vygotsky, who had pointed out in the 1920s that learning is social and that children learn when they advance beyond their present level of competence supported by more competent adults, Lave and Wenger noted that competence and knowledge development can be understood as a gradual socially supported movement from being a novice to becoming a master. Mastery, in turn, was defined by the community in question, using its own criteria for what counts as competent action. To launch the road to mastership, a novice had to gain peripheral participation in the community in question. In many traditional communities of practice, the entry point was through culturally controlled forms of apprenticeship.

The essence of a CoP

This original concept of Community of Practice has important implications. According to it, a CoP is a social unit, a group whose members define themselves as members of the same community of practice. As a "community" it is an answer to the question: "Who are you, and what you do?" A meaningful answer to this question is a social category that is defined through sufficient similarity; a category that can be meaningfully be distinguished from other similar categories. Although meat cutters, Yucatan mid-wives and navy quartermasters can all be understood as professional groups, they are also different groups, and their members know it.

The members of these different groups know different things and they use different tools to get their job done. More fundamentally, anthropological and ethnographic research clearly revealed that what counts as "knowledge" in these different communities differs. Meat cutters and navy quartermasters have different tools and they need different stocks of knowledge to be competent in their practice. This is a fundamental observation. The social world and its various knowledge communities create a heterogeneous world of knowledge. Knowledge is not universal; Instead, social practices create a social structure that produces potentially incompatible sets of knowledge.

In Lave and Wenger's early work on communities of practice, three things are focal. First, a community of practice is the social unit where socially important forms of learning occur. A community of practice is a theory about social learning. Community of practice is the underlying social structure that allows novices to become competent members and masters of a practice. Second, communities are defined as communities of *practice*. Learning that occurs in a community of practice is situated in a practical context where the appropriate use of tools, methods, techniques, and procedures defines the level of competence. The CoP model, therefore, is also a model of situated learning. Third, the members of the community define their identities as members of the community. When asked, they tell they are meat cutters, navy quartermasters, or mid-wives. To use an alternative term, communities of practice are epistemic communities. They have a shared world-view, a shared set of core concepts that organize the world, and a shared system of

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values. Although people can be members in many CoPs simultaneously, as members they share the systems of meaning that keep the community as a social unit.

This original conceptualization of a CoP means that the underlying social groups share tools and language, and their members believe they are part of the same community. It is, therefore, easy to detect such a CoP by asking people who are the leading experts in their community, what are the tools they use in their daily practice, which information sources they follow, and to whom they turn when they need advice and knowledge in their practice. It is possible to support such CoPs in multiple ways, for example by providing them with better tools and concepts, by facilitating and accelerating social learning within them, and by lowering barriers for access. These are the “professional groups,” whose importance already Durkheim pointed out in his *Division of Labor in Society*, but which he left for future generations to elaborate.

Organizational CoPs

When knowledge management became a hot topic in large corporations in the mid-90s, Wenger went on to commercialize the CoP concept. With his best-selling book *Communities of Practice* (Wenger, 1998), he successfully popularized the concept. At the same time he created fundamental confusion. Whereas the original CoP concept was about an emergent social structure that underlies competence development in established social units, Wenger's attempt to make the concept relevant for business management led to a new definition that lost much of the original idea.

In Wenger's new formulation, CoPs were defined as groups with shared repertoire, mutual engagement, and joint enterprise. Indeed, the first characteristic is about shared practice, with its associated tools, techniques, and conceptualizations of the world. The second, mutual engagement, however, relates to collaboration among members from several communities that cooperate under a given division of labor. This means that mutual engagement has to deal with the problem of cooperation across groups that speak different languages and where learning occurs, if it occurs at all, across epistemic boundaries.

Heterogeneous communities

Such heterogeneous settings for social cooperation and learning were studied by another important contributor to the early CoP concept, Susan Leigh Star, who introduced the concept of a “boundary object” to describe interactions across interacting communities of practice (Star & Griesemer, 1989). When different communities have different world-views and horizons of meaning, a question emerges how they can collaborate and coordinate their activities. Leigh Star showed that material artifacts, documents and, for example, databases and classification systems can provide the glue between different communities. Such *boundary objects* can be interpreted and used in various ways by different interacting communities, but they also act as shared points of synchronization that make collaboration possible. A simple example of such a boundary object is an architectural drawing that is used for different purposes by the different design and construction groups and, for example, people who decide on construction permits.

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Star defined communities as epistemic “closures.” According to Star, boundary objects made cooperation without consensus possible. Boundary objects have interpretative flexibility that allows the different stakeholder groups to interpret them in their local contexts of meaning, without requiring that the different groups agree on what they are doing or talking about. (Star, 1992; Bowker & Star, 1999; Star, 2010)

Project teams and joint enterprises

Whereas mutual engagement allows different cooperating groups to have their own objectives, Wenger's third criterion, *joint enterprise*, means that a mutually engaged group has a shared objective. It then starts to look very much like a project team. Project teams are groups that can be established by a managerial fiat, and they are therefore important units in organizations.

Project teams can be understood as intersections of several communities of practice. When a manager forms a project team, she or he nominates members who are experts in their respective communities of practice and who can mobilize their social networks when required, to address the emerging needs of the project. Although a project team may develop its own team identity and eventually elements of a shared language, the dynamic of project teams is very different from naturally emerging communities of practice. Team members are typically selected because they bring different competences to bear on the task at hand. Whereas learning in communities of practice is about socializing into the existing values and practices of the community, in project teams learning is more about exploration, innovation and creation of new knowledge.

Project teams are thus characterized by diversity and social heterogeneity. They are typically also transient formations.

Project-based communities

Not all projects are intentionally set up by the powers of hierarchy. In some important cases they can also be real communities of practice. In his research on social movements, Alain Touraine (1971) distinguished three different sources of identity. One is based on the established and institutionalized social structure. Touraine called the associated form of identity *legitimation identity*. People with legitimation identity can tell who they are by pointing out the specific location they occupy in the current institutionalized social hierarchy.

Institutionalized social structures also create the possibility to define oneself in contrast to the current establishment. This leads to *resistance identities*. People can define themselves against established social structures. Resistance identities mirror legitimation identities, and allow people to describe their identities by telling who they are not and who they don't want to become, what ideas they do not subscribe to, and, for example, by what they do not eat.

The third possibility, according to Touraine, is to define oneself as a proponent of specific ideals. This leads to *project identities*. People with project identities do not define themselves as occupants of the current structure or against it; instead, they have a mission

and a project they try to achieve. This last form, therefore, is an emergent social structure, oriented towards change, where mutual engagement and joint enterprise, indeed, can co-exist with social learning and shared practice. A social group can gradually develop a project-based identity when a shared interest becomes institutionalized and it can create a shared repertoire that can become an object of social learning. A community of interest, therefore, can also be an emerging community of practice.

Thought collectives and esoteric circles

A historical case of such an emergent project-based community of practice was described by the Polish microbiologist Ludwik Fleck in the 1930s. Fleck, who is today considered as one of the pioneers of sociology of science, studied the historical emergence of syphilis as a well-defined disease in his *Genesis and Development of a Scientific Fact*. He showed (Fleck, 1979) that the scientific evolution of syphilis was associated with the development of its associated diagnostic methods, instruments, theoretical concepts, and a community of professionals, who adopted a new “thought style” that was quite incomprehensible to the “old-school” people who were not initiated in it.

A thought collective was defined by Fleck as a community of persons *mutually exchanging ideas or maintaining intellectual interaction*. Members of a collective not only adopt certain ways of perceiving and thinking—a thought style—but they also continually transform it. Some thought collectives are short-lived and may last only while ideas are exchanged, while others may become institutionalized. When a thought collective becomes institutionalized, it may further separate into a core *esoteric circle* with the persons “in the know,” and a more loosely connected *exoteric circle*, which lives under the influence of the thought collective, but which is not actively driving its development. Long-lasting thought collectives in art, science, astrology, medicine, and politics can span several generations, each with their respective high priests, gurus, and leading experts.

Institutional and transient communities

For practical purposes, it is therefore possible to distinguish communities that are socially “homogeneous” and those that are socially “heterogeneous.” In the former, the members of the community speak the same language and share the same thought style because they are socialized into the same epistemic community. In heterogeneous communities, people have different interpretations of the same boundary objects, and they use different value systems to define progress, quality, truth, utility, and accuracy.

Fleck pointed out that thought collectives can be short-lived or they can become institutionalized. In the latter case, a thought collective can generate an esoteric circle. Within the esoteric circle, Fleck distinguished three groups. One consisted of the true specialists, its “vanguard.” Another was its main body, its “official community.” The third was, in the terms of Lave and Wenger, its peripheral participants, or apprentices and novices, which Fleck called its “stragglers.”

Activity systems

When the “collective” is long-lasting but heterogeneous, it can best be described as a collaboration structure. The analysis of established heterogeneous networks leads to discussion on established forms of division of labor, which was the route taken by Vygotsky's collaborators in the 1930s, and which became known as the cultural-historical activity theory (Wertsch, 1981; Zinchenko, 1995). A more recent version of activity theory was developed by Yrjö Engeström in the 1980s. In Engeström's (1987) model of expansive learning, communities, their tool-enabled practices, and division of labor play an important role.

Engeström and his collaborators developed in the 1990s a systematic method to develop new work practices with heterogeneous teams. This approach, known as Change Laboratory, has since then successfully been used, for example, to develop new practices in health care (Engeström, Virkkunen, Helle, Pihlaja, & Poikela, 1996). Change Laboratory is a method to develop new forms of practice in settings where mutual engagement and joint enterprise are important, thus effectively addressing Wenger's challenge of applying community of practice approach in organizational settings.

Spaces of knowledge creation

A somewhat different way to conceptualize mutual spaces of knowledge creation and learning was proposed by Nonaka (Nonaka, Toyama, & Konno, 2000), who towards the end of the 1990s augmented his knowledge creation model with the idea of knowledge creation “ba's”. The concept of *ba* has deep roots in the philosophy of Kitaro Nishida (Carter, 1997), who at the beginning of the 20th century combined European phenomenological philosophy, American pragmatism, and Buddhist philosophical views of reality and cognition. Nonaka applied some of this different epistemological approach to innovation theory and the practice of organizational knowledge management. One way to interpret the concept of *ba* is to view it as a space of mutual sense-making. Nonaka and his colleagues first developed the concept in relation to Nonaka's “SECI” knowledge creation model, linking different types of knowledge creation spaces with different stages—socialization, externalization, combination, and internalization—of Nonaka's knowledge creation model. Thus, Nonaka defined “socialization ba's,” “externalization ba's,” “combination ba's,” and “internalization ba's.” More recently, Nonaka and his colleagues (e.g. Nonaka, Toyama, & Hirata, 2008) have focused on more long-lasting institutional spaces of mutual knowledge creation, for example, between organizations and their customers, and between academic institutions and the applicers of new scientific and technical knowledge.

Locating knowledge creation communities

The above brief review of some of the community-oriented models of learning and knowledge creation highlights the point that two different dimensions are important for understanding learning processes in communities. One is time, and the other is epistemic heterogeneity. Using the two key dimensions of community life-time and epistemic heterogeneity, we can locate the different types of communities as shown Figure 1 below.

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Figure 1: Different types of knowledge creation communities (Tuomi, 1999, p. 273).

	homogenous	heterogenous
ephemeral	socialization "ba"	combination "ba"
stable	thought community	change laboratory
institutionalized	community of practice organizational department, "function"	activity system organizational division, "process"

↑ increasing knowledge creation

Implications

For the UNESCO Scoping project the above discussion implies that there are at least six different ways to set up the regional workshops and the related research objectives. It is possible to organize different types of workshops by inviting different mixes of participants and by focusing on different types of learning and knowledge creation objectives for each of the six alternative slots of Figure 1.

For example, one possibility is to locate and amplify established Communities of Practice. This would imply that workshop participants share the same thought style and are able to speak the same specialized language. The participants may have different levels of competence, and some may be peripheral participants, but they would be invited based on their participation in an existing community of practice. Another possibility would be to focus on an emerging community that has a project. Such a community would lack the esoteric circle, its members might have difficulties in finding common concepts and language, but its members would already have a shared project identity and a shared objective. It would be possible to support such an emerging community, for example, by providing it with improved tools for futures literacy and new conceptual frameworks for anticipation.

A more fully fledged study could develop research objectives for each of the slots in the figure, showing how anticipation is used in these different settings. In a scoping project this is not possible. The concepts described above may, however, help to define what types of social units can be hidden behind the apparently simple and extremely popular concept of Community of Practice.

REFERENCES

Scoping Global/Local Anticipatory Capacities

- Bowker, G., & Star, S. L. (1999). *Sorting things out: Classification and its consequences*. Cambridge, MA: The MIT Press.
- Brown, J. S., & Duguid, P. (1991). Organizational learning and communities of practice: toward a unified view of working, learning, and innovation. *Organization Science*, 2(1), 40–57.
- Carter, R. E. (1997). *The Nothingness Beyond God: An Introduction to the Philosophy of Nishida Kitaro*. St. Paul, MN: Paragon House.
- Engeström, Y. (1987). *Learning by expanding: An activity theoretical approach to developmental work research*. Helsinki: Orienta Konsultit.
- Engeström, Y., Virkkunen, J., Helle, M., Pihlaja, J., & Poikela, R. (1996). The change laboratory as a tool for transforming work. *Lifelong Learning in Europe*, 1(2), 10–17.
- Fleck, L. (1979). *Genesis and development of a scientific fact*. Chicago, IL: The University of Chicago Press.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Nonaka, I., Toyama, R., & Hirata, T. (2008). *Managing Flow: A Process Theory of the Knowledge-Based Firm*. Houndmills, Basingstoke: Palgrave Macmillan.
- Nonaka, I., Toyama, R., & Konno, N. (2000). SECI, ba, and leadership: a unified model of dynamic knowledge creation. *Long Range Planning*, 33(2000), 5–34.
- Orr, J. E. (1986). Narratives at work: story telling as cooperative diagnostic activity. In *Proceedings of the 1986 ACM conference on Computer-supported cooperative work* (pp. 62–72). New York, NY, USA: ACM. doi:10.1145/637069.637077
- Orr, J. E. (1996). *Talking about Machines: An Ethnography of a Modern Job*. Cornell University Press.
- Star, S. L. (1992). Cooperation without consensus in scientific problem solving: dynamics of closure in open systems. In S. Easterbrook (Ed.), *CSCW: Cooperation or Conflict?* (pp. 93–106). Berlin: Springer-Verlag.
- Star, S. L. (2010). This is not a boundary object: Reflections on the origin of a concept. *Science, Technology & Human Values*, 35(5), 601–617. doi:10.1177/0162243910377624
- Star, S. L., & Griesemer, J. R. (1989). Institutional ecology, “translations” and boundary objects: amateurs and professionals in Berkeley’s Museum of Vertebrate Zoology, 1907–39. *Social Studies of Science*, 19, 387–420.
- Touraine, A. (1971). *The Post-Industrial Society. Tomorrow’s Social History: Classes, Conflict and Culture in the Programmed Society*. London: Wildwood House.
- Tuomi, I. (1999). *Corporate knowledge: Theory and practice of intelligent organizations*. Helsinki: Metaxis.
- Wenger, E. (1998). *Communities of Practice: Learning, Meaning, and Identity*. Cambridge: Cambridge University Press.

Scoping Global/Local Anticipatory Capacities

Wertsch, J. V. (1981). *The Concept of Activity in Soviet Psychology*. Armonk, NY: Sharpe.

Zinchenko, V. P. (1995). Cultural-historical psychology and the psychological theory of activity: retrospect and prospect. In J. V. Wertsch, P. del Río, & A. Alvarez (Eds.), *Sociocultural Studies of Mind* (pp. 37–55). Cambridge: Cambridge University Press.

3.

Operational guidelines for the implementation of the FL KnowLabs¹⁶

Riel Miller

Extensive work was done on testing the key ideas in both theory and practice. The following notes on implementing the FL KnowLab/LSE series emerged from an intense discussion by the Research Committee in Oslo.

1. Overarching aims of the UNESCO FL KnowLab/LSE series

1. To run a series of events around the world each of which brings together local groups and organisations to encounter and use new anticipatory practices to open up new ways of framing significant contemporary concerns.
2. To network together, at a local level, the diverse emerging futures and foresight communities.
3. To support UNESCO to take a leadership role in respecting and diversifying the range of practices that have a potential contribute to an understanding of anticipation.
4. To generate research insights into:
 - a. The different cultures and practices of anticipation that are currently being used to frame and address contemporary concerns
 - b. The consequences for participants of suspending and encountering different anticipatory assumptions as a means of opening up new spaces for action on these areas of concern.

2. What is an FL KnowLab/LSE?

A Local Scoping Exercise is a face-to-face event, with a minimum of 10 committed local participants and invited international participants, run over a minimum period of one and a half days, designed and implemented in close collaboration between Unesco and the local organizing team around an agreed process. The process comprises three phases, which take participants through the following steps:

1. making visible anticipatory assumptions around the problem area, including an awareness of the participant's understanding of the past and present context;
2. a chance to challenge dominant anticipatory assumptions through a reframing or disruptive modeling of imaginary futures (scenarios);

¹⁶ With thanks to the Research Committee (Keri Facer, Lydia Garrido, Rakesh Kapoor, Anita Kelleher, Roberto Poli, Pierre Rossel, Alioune Sall, Richard Sandford, Ilkka Tuomi, Riel Miller) that participated in the Oslo meeting, funded by Innovation Norway, and particularly Keri Facer who drafted an initial outline of these guidelines.

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3. a process for opening up new questions about the framing of the problem area and reflecting on the attributes of “using the future” as a way to understand and act in the present.

A Local Scoping Exercise is also an event that must generate robust data as part of a global project examining:

1. The different cultures and practices of anticipation that are currently being used to frame and address contemporary concerns
2. The consequences for participants of suspending and encountering different anticipatory assumptions as a means of opening up new spaces for action on these areas of concern.

3. What an FL KnowLab/LSE NOT?

A Local Scoping Exercise is NOT

1. an ‘off the shelf’ process that can be delivered by UNESCO or a consultancy TO a local context
2. a ‘badge’ that can be applied to a pre-defined process being organized by a third party
3. a means of building more accurate forecasts or predictions about the problem area
4. a drop-in and out workshop for uncommitted participants
5. an event that privileges the interests of a single sector or group to the exclusion of others concerned with the issue under discussion
6. an event that will be successful independent of participant contribution and commitment

4. How to design an FL KnowLab/LSE?

An LSE is designed in collaboration between UNESCO and Local Partners. Key phases of this collaboration include:

1. an initial principles meeting that will discuss and clarify
 - a. expectations and desires of partners – agreeing that this event is not focused on building forecasts
 - b. identifying the shared ‘problem area’ to be addressed
 - c. agreeing the range of possible participants that need to be involved
 - d. agreeing the wider context of activity that the LSE will contribute to, and the responsibility for next steps arising from the event
 - e. agreeing the principles that will ensure safety, confidentiality and legitimacy of the LSE for participants
 - f. agreeing the principles for gathering data
 - g. top level budget
 - h. agreeing action plan for development of activities
2. a design outline meeting that will discuss and clarify
 - a. the exact methods to be used
 - b. the exact participants
 - c. the shared roles of UNESCO and local partners in facilitating the event

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- d. the recruitment of observers to support data collection during the event
 - e. final budget
 - f. GO/NO GO meeting – decision on whether to proceed
3. an operational details meeting that will
- a. finalise exact timings, logistics and budget
 - b. exact responsibilities of the Unesco/local team during the event
 - c. final list of participants

4. What is the broad outline of an LSE?

An LSE comprises three phases, under which a variety of techniques can be deployed, as designed to local context:

Phase 1: Surfacing existing ideas about the past, present and ‘familiar’ future of this particular problem or concern – in particular, making visible the basis and anticipatory models and systems these descriptions of past, present and future are premised upon.

Create space for people to talk about their ideas about the future in the substantive area under discussion. Deploying techniques for conversations, in small and large groups, that develop shared sense-making about people’s expectations (what they think is likely or probable) and what they hope for (what their values lead them to see as a desirable future).

This phase is the easy slope of the learning curve as people move what they know from tacit to explicit. A key design criterion is that the heuristic chosen to engage in people in conversation should invite them to appreciate what they know and give permission to open expression of expectations, hopes, fears. At the end of this phase participants should have a better idea of how they see the past, present and future in terms that are conventional for them. Participants should also have a better idea of each other and a certain comfort level in exploring ideas together.

One of the primary aims of this phase – to make visible the ideas of the future and models of the future people are working with.

Key Output – identify the key features (metaphors or variables) that underpin these dominant or taken for granted ideas of the future with which individuals and groups identity.

The rest of the workshop depends on this phase – these key features need to be REVERSED/FLIPPED in phase 2 - the Aikido Move – or they need to be presented with alternatives/differences. Not from negative to positive, but difference to difference. NB – this is about surfacing DIFFERENCE NOT about ‘teaching’ everyone to lose indigenous or personal frames and replace them with “correct” frames, ‘western’ or otherwise.

Phase 2: Reframing/encounters – encouraging participants to encounter radically different ideas of the future, premised upon different anticipatory assumptions regarding institutions, relationships, culture, values, categories for describing societal systems and processes, theories of change, etc.

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Encourage people to ‘play/situate/engage/reflect’ on an alternative set of assumptions from the expectations surfaced in level 1. Move people outside their anticipatory assumptions. *Aim is to disrupt ideas about the future, by exploring the different models that underpin ideas of the future and that these are premised upon particular assumptions. To bring in different set of ideas related to the topic and alternative foundations for these ideas. Encourage people to question the way they use the future – in other words introduce alternative ways of thinking about emergent reality – repetition and difference. Question the exclusive and instrumental focus on using the future to prepare and predict. Move people beyond normal assumptions about deterministic causality so that they begin to experience Futures Literacy and the capacity to think about a wide range of anticipatory systems and processes. This means getting participants beyond the dominant and constraining view of the future that what counts is realism/preference/functional planning or a narrow colonizing view of the future. Participants need to be able to detach from their own parameters and assumptions. Test their imaginations in order to understand that the future is always imaginary. NB – narrative and analysis separated. This is NOT about building a scenario that should hold and be a basis for design and action, it is about developing capacity.*

To open up the possibility of exploring different paradigms and systems that are radically different from current reality.

Tools for this activity can include:

- Scenarios - built on the basis of radical discontinuities,
- A radical framework/different setting for discussions – e.g. Innovation Society/Confucian China
- Make-up of the group – radical diversity of participants likely to bring diverse systems and worldviews
- Bring in complexity – multiple variables that can push discussion in very different directions, including exploring seeds of change that might promote radical discontinuity
- Experiential – immersive theatre, interaction in embodied sense in an alternative future space – dramatic – performance,
- Design artifact – bring something in from another future – what sort of society/culture needs this?
- Synectics – pulling two diverse things together to construct a radically different ‘mash-up’ – monstrous hybrids – artists.
- Different models of backcasting... contrastive and mutually incompatible solutions
- Disentangling ‘what’ you are thinking about and the ‘way’ you are thinking about it...

Phase 3: Opening up space to think

Encourage reflection on the differences between phase 1 and phase 2 as a basis for opening up how different ways of thinking about the future are possible. There are ways of using a meta-cognitive language for reflecting on different types of assumptions and

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thinking about the future (including introductions to contingency, novelty, optimization and others...?). There are different ways of opening up ideas about framing the future.

Encouraging participants to explore the new possibilities, questions and ideas that might emerge in the gap between the ideas they brought into the workshop and the ideas and assumptions in phase 2.

Think about relationship of phase 1 and phase 2 and see what new questions might be asked from this process. *Aim of this section is to explore the contrast between prior assumptions and ideas of the future in phase 2. Aim of this element is to provide a starting point for creative imaginings around these issues.*

CODA:

Coda – research & reflection session – so what are we going to do now? What might happen Monday? What might we do next week?

5. What are the conditions for success of an LSE?

The aim of the LSE is to create cognitive dissonance between existing and encountered ideas of the future, this is a challenging process that is as dependent upon the participants and the relations between them as upon the techniques employed by the facilitators. Key issues that have to be addressed therefore include:

- different people in the room – diversity
- encouraging people to feel free to play and to turn things upside down, to see the opposite
- participants must be able to formulate ideas in a consistent manner – have knowledge and a way of taking a view on the world
- people have to have a capacity to communicate – and to find a common language – have to be able to listen to others, reach out to others, forge a common language
- motivation, in certain cases related to a desire to rally around – ‘some sort of shared project’
- legitimacy invested into the group – external actor brings the legitimacy to bear on this - permission to do this and to ‘have the space’ to do this.
- Physical safety – to say and do things differently
- Clarity about reporting
- Ethical clarity regarding the process and outcomes
- Expectation of generosity – yes, and... not no, but...
- Expectation of reciprocal relationship between facilitator and group – facilitator needs to build on what the knowledge is in the room
- Commitment – feel free, motivated and confident
- Participants – willing – sufficient critical mass for energy and buzz
- Energy of the group
- Good pedagogy
- Consistent participants over the duration of the event – and for a minimum period – it is a group working together – loyalty to the group

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- Make clear that what people get out of this event is what they bring to the activity – it is not a ‘delivery’ model of experience, it is a collective learning experience where everyone has to put in
- The Spanish Inn – you eat what you bring
- The legitimacy of the group – and of the convenors of the event – there needs to be a clear process of creating legitimacy for the group.
- Legitimacy for the facilitator – what commitment do they have to the group and the work – the facilitation needs to draw on UNESCO/global framing,
- An individual who can bring uncommon insights, some moments of inspiration, leadership and unique perspectives - people who are champions..
- Facilitation – need a hybrid – team that can bring continuity and local participation as well – but needs other perspective.
- External and insider perspectives, mediators and disruptors

6. Research Questions

RQ1 - What is the nature of the different anticipatory assumptions that are being brought to bear on these issues of local concern around the world by different communities?

- The LSE series here serves as a lens to make anticipatory assumptions visible in support of participants’ own projects across a highly diverse series of settings and contexts.
- The LSE series as a whole provides data on a highly diverse set of contexts and the sorts of anticipatory assumptions that people exhibit in these contexts

Assuming that the three phase model of the LSE supports participants to make visible and encounter diverse anticipatory models and to suspend their own anticipatory assumptions

...

RQ2 – What are the consequences for participants of suspending and encountering different anticipatory assumptions in terms of opening up new spaces for action on these areas of concern?

- Individual LSE events allow for testing out different approaches to the three phase strategy and their efficacy in different contexts.
- The LSE series as a whole, comprising as a relatively standardized series of activities applied in local contexts, provides data to enable the exploration of the impact of these activities for stimulating change in participants’ conceptions of their own assumptions about the future and the implications of this for their plans and actions.

Critical issues:

On the day – do a survey of participant perceptions of having participated in the process. Look for ways to get indicators of the extent of transformations in perceptions, behavior in relation to the individual and organizations.

Gathering the knowledge created regarding how to use what they have produced.

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What might they now want to do, be able to do after this workshop?

4.

Overviews and Summaries of the FL KnowLabs¹⁷

Riel Miller

A Local Scoping Exercise (LSE) is a coherent process that generates knowledge, in more general terms it is a “knowledge laboratory” (KnowLab). But it is a specific kind of KnowLab – a Futures Literacy KnowLab (FL KnowLab), one that uses the future to produce knowledge in four different categories. First, it generates new insights about a specific issue of local concern like the future of young people in Sierra Leone or the way universities in Brazil might use the future. Second, it creates research quality evidence about the participant’s use of the future – specifically the networks they belong to and the methods they use. Third, the participants in the LSE acquire new skills for using the future themselves; they start becoming futures literate. And fourth, like all designed activities it can be assessed to see if the design, in this case the specific construction of the KnowLab, has achieved its objectives and in this way provide evidence regarding different ways of designing KnowLabs for different contexts and goals.

The LSEs contributed to addressing the question of how humanity can be more effective in the way it uses the future to overcome current challenges. As planned the LSEs were designed in close collaboration with local champions and integrated a wide range of different foresight tools into the basic architecture of the FL KnowLab. LSEs were developed and implemented in collaboration with numerous partners, including, when feasible, UNESCO field offices, National Commissions and Permanent Delegations.

In the context of the Scoping Project the following events were organized either to test design aspects or to implement the research.

FL KnowLabs - Local Scoping Exercises

Baku, Azerbaijan	June 01 st , 2013
Paris, France KnowLab Design	June 20 – 21, 2013
Brasília, Brazil	July 11-12 th , 2013
São Paulo, Brazil	July 15 th , 2013

¹⁷ Special thanks to Linda Tinio who served for two years as the main Policy Specialist in the Foresight Section, Bureau of Strategic Planning, until June 2014. She worked extensively on this project and helped to supervise a set of excellent interns who also contributed to the overall project: Jennifer Rudkin, Leyla Kjazim, Ivan Souza and Mackenzie Dickson.

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Chicago, USA	July 19 th , 2013
Oslo, Norway	October 21 st - 22 nd , 2013
Bogota, Colombia	November 25-26 th , 2013
Rio de Janeiro, Brazil	November 28-29 th , 2013
Paris, France (Youth to Adult)	January 13-14 th , 2014
Freetown, Sierra Leone	January 20 th -21 st , 2014
Munich, Germany	February 5-6 th , 2014
Paris, France (Future of Cities)	March 27-28 th , 2014
Manabi Province, Ecuador	April 26 th – May 1 st , 2014
Rangoon, Myanmar	May 2-3 rd , 2014
Loag City, Phillipines	May 21-24 th , 2014
Johannesburg, South Africa	May 26-28 th , 2014
Ottawa, Canada	June 4-5 th , 2014

Baku - June 1, 2013

- **Topic**

THE FUTURE OF FORESIGHT

- **Location**

State Economic University, Baku, Azerbaijan

- **Local Organizer**

Azerbaijan Futures Society – Node of The Millennium Project (TMP)

- **Summary**

This mission was within the framework of the extra-budgetary project financed by The Rockefeller Foundation entitled "Networking to Improve Global/Local Anticipatory Capacities - A Scoping Exercise". Its purpose was to conduct a LSE in order to explore the utility and attributes of a network to assist a broad range of communities-of-practice in the field of anticipation. It was organized along with The Millennium Project. A group of futurists that form a network involving some 50 “nodes” that collaborate to produce a report entitled State of the Future, and share knowledge. This particular meeting was held at the confluence of three other events being run in Azerbaijan: a large global scale meeting on “Inter-cultural Dialogue”; a gathering of TMP’s Planning Committee; and a Baku Futures Forum on the post-oil economy.

- **Facilitators**

Riel Miller, UNESCO Foresight

- **Participants**

Jerome C. Glenn, Elizabeth Florescu, Jose Cordeiro, Concepcion Olavarrieta, Rosa Alegria, Geci Karuri-Sebina, Zhouying Jin, Youngsook Park, Sirkka Heinonen, Katindi Sivi Njonjo, Milan Maric, Sanja Vlahovic, Nadejda Gaponenko, Lydia Garrido Luzard, Kamal Zaki Mahmoud Sheer, Brock Hinzmann, Ibon Zugasti, Ageev Alexander Ivanovich, Ozcan Saritas, Andrea Brignone, Natalia Sinichkina, Mohsen Bahram, Jack Gotsmann, Hector Casaneva, Pavel Novacek, Mohan K. Tikku, Cornelius Patscha, Piotr Jutkiewicz, Philippe Destatte, Gunter Clar, Blaz Golob, Paul Werbos.

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Outcomes and results obtained

A highly experienced group of futurists were able to provide important feedback on key aspects of the aims and design of the Scoping Project. In particular, a number of new partners (potential local champions) were identified for LSE activities in the Russian Federation, Montenegro, Uruguay, South Africa, Brazil, Egypt, and in general across The Millennium Project network. The positive response of participants in Baku confirmed that the Scoping Project resonated strongly within the foresight community.

Brasília - July 11-12, 2013

• Topic

EXPLORING THE FUTURE OF SCIENCE IN BRAZILIAN SOCIETY: IMAGINING 2040

• Location

CGEE offices, Brasília, Brazil

• Local Organizer

Center for Strategic Studies and Management in Science, Technology and Innovation (CGEE)

• Summary

The CGEE (<http://www.cgee.org.br/sobre/english.php>) has been supporting UNESCO since the establishment of the Scoping Project. CGEE is an autonomous think tank that promotes and engages in assessment strategies regarding science and technology for public and private institutions, and it is linked to the Brazilian Ministry of Science and Technology. CGEE joined UNESCO to develop a LSE with the purpose of testing the applicability of this methodology for CGEE's work in Brazil. CGEE was interested in exploring the anticipatory assumptions that shape people's understanding of the nature and role of science in society. This LSE was also intended to serve as a testing ground for a forthcoming LSE to be held in Rio de Janeiro, along with the World Science Forum.

• Facilitators

Ana Carla Fonseca, Garimpo de Soluções
Cristiano Cagnin, CGEE
Lelio Fellows, CGEE
Lydia Garrido, Consultant
Riel Miller, UNESCO Foresight

• Participants

Ademar Kyotoshi Sato, Arnaldo de Hoyos, Celina Roitman, Claudio Corrêa, Cristiano Hugo Cagnin, Evandro Teixeira Alves, Fabiano Tonucci, Fernando Rizzo, Isaac Roitman, Joaquim A. Machado, José Vicente Tavares dos Santos, Klaus Guimarães Dalgaard, Lelio Fellows Filho, Lia Krucken, Lydia Garrido, Marco Paulo, Peter Moll, Piero Venturi, Raul Sturari, Ricardo Corrêa, Rômulo Ribeiro, Rosa Alegria, Sidarta Ruthes de Lima, Sidnei Marinho Vieira, Wagner Martins.

• Outcomes and results obtained

This event contributed significantly to subsequent efforts to design and implement new approaches at CGEE.

São Paulo - July 15, 2013

- **Topic**

CHANGING THE WAY UNIVERSITIES USE THE FUTURE?

- **Location**

Pontifical Catholic University, São Paulo, Brazil

- **Local Organizer**

Future Studies Nucleus – Pontifical Catholic University, Node of The Millennium Project

- **Summary**

Universities are often accredited with the mission of assuring humanity's future, either by preserving, creating or diffusing knowledge. This LSE faced the challenge of reconsidering the nature and role of the University in the development of humanity's anticipatory practices, aiming to contemplate how a more sophisticated way of using the future could alter the way learning is conceived and organized today.

- **Facilitators**

Arnoldo José de Hoyos Guevara, Pontifical Catholic University
Rosa Alegria, Pontifical Catholic University
Riel Miller, UNESCO Foresight

- **Participants**

Afonso Carlos Braga, Alessandro Rossini, Ana Lucia Gomes da Silva, André Narry, Alice J. T. Caffaro, Ana Carla Fonseca, Christine Syrgiannis, Claudio Pinello, Daniel Couto Gatti, Diego Conti, Dirce Tavares, Esper Cavalheiro, Fabricio Cesar Bastos, Ivan Domicio da Silva Souza, Jadir Magro Galvão, Juliana Vilarinho, Lala Deheinzelin, Lelio Fellows Filho, Lilian Bittencourt, Lydia Garrido, Maria Aparecida Lacerda e Silva, Maria de Fatima Alexandre, Maria Fernanda F. Marucci, Marimélia Porcionatto, Olga Baliau, Osvaldo Martins, Paula Pompeu, Pedro Aguerre, Regina Maria da Luz vieira, Regina Migliori, Renée Zicman, Roberto Coutinho, Roberto Galassi Amaral, Sérgio Bicudo, Sonia Albano de Lima.

- **Outcomes and results obtained**

This was another occasion in which Unesco's Foresight Programme was able to introduce the Discipline of Anticipation to a diverse public, one particularly concerned with Education. The LSE enabled participants to raise new questions that challenge traditional frameworks. For example: the logic of the economic scarcity of the industrial era was explicitly questioned, and instead, it was pointed the logic of abundance as a new paradigm. Questions were also posed regarding the continuity of the 'University' as an institution. Participants challenged the models that have emerged from the industrial paradigm and the underlying logic of scarcity, created to concentrate knowledge as power. Another interesting point was the image of 'displacement' of references, from external to internal attribution of value (something necessary for example, for self-administered learning processes). Finally, the LSE motivated a group of Professors from the Pontifical Catholic University to write a paper on the Future of Universities and the Role of

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Interdisciplinarity. (Fazenda et al. The Role of the Future at the University - Perceptions from an Interdisciplinary Perspective.).

Chicago - July 19, 2013

- **Topic**

The Future of Futurists

- **Location**

Chicago, USA, Association of Professional Futurists (APF)

- **Local Organizer**

Association of Professional Futurists (APF)

- **Summary**

This LSE was held along with the APF Professional Development Day to discuss questions such as: Who are we? What's our place as futures/foresight practitioners in this evolving field/profession/ industry? Where are we going?

- **Facilitators**

Peter Bishop, Ph.D., futurist and Associate Professor of Strategic Foresight, University of Houston.

Cindy Frewen, Ph.D., futurist and architect in Kansas City, teaches at the University of Houston graduate program in Futures Studies & Strategic Foresight.

Andy Hines, Ph.D., is Lecturer and Executive-in-Residence at the University of Houston's Graduate Program in Foresight.

Jennifer Jarratt, M.Sc., futurist and founder of Leading Futurists in Washington DC.

Riel Miller, Ph.D., futurist, is Head of Foresight at UNESCO in Paris.

Heather Schlegel is a futurist, technologist, and cacophonist; Head of product development at DebtMarket.

Lee Shupp, futurist and consultant at The Future Company. Strand

- **Participants**

40 professional foresight practitioners from all aspects of the field



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• Outcomes and results obtained

This group of professional futurists examined the future of their profession from a range of perspectives and addressed the issue of the Discipline of Anticipation and the capacity to be Futures Literate. Many of the participants identified key aspects of their practices that correspond with the hypotheses of the Scoping Project and numerous volunteers came forward to assist with the upcoming work.

References

The agenda is available at:

<https://dl.dropboxusercontent.com/u/9296828/APF%20Professional%20Development%20Day2013v3.pdf> For more pictures visit: <http://www.flickr.com/photos/apfprofuturists/>

Oslo October 21-22, 2013

• Topic

Innovation as Learning, Knowing as Science: Imagining a Universal Innovation Society in 2040

• Location

The Research Council of Norway, Oslo, Norway

• Local Organizer

Innovation Norway (IN) and The Research Council of Norway (RSN)

• Summary

Innovation Norway (IN) and The Research Council of Norway (RSN) have been partners of UNESCO Foresight since the beginning of the Project on Scoping Global/Local Anticipatory Capacities. These two public institutions worked closely with UNESCO to co-design and finance a LSE on “Innovation and Anticipation: Designing the Future into Innovation Processes”.

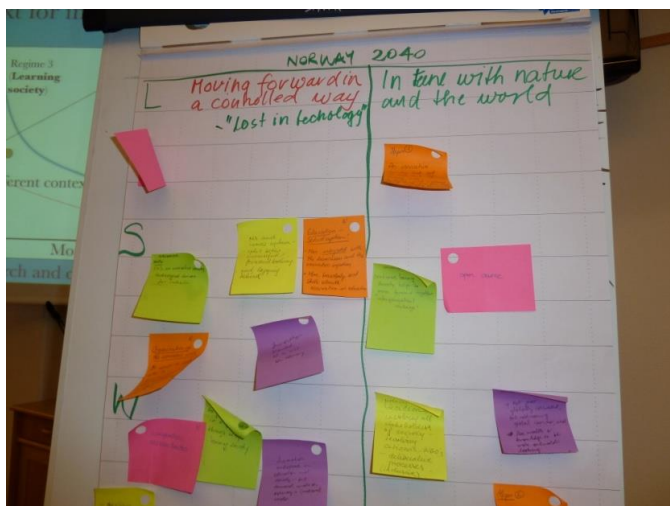
• Facilitators

Riel Miller, UNESCO Foresight
Linda Tinio-Le Douarin, UNESCO Foresight

• Participants

Keri Facer, Lydia Garrido, Rakesh Kapoor, Anita Kelleher, Roberto Poli, Pierre Rossel, Alioune Sall, Richard Sandford, Ilkka Tuomi, Richard Owen, Elisabeth Gulbrandsen, Ellen Veie, Per Koch, Jon Fixdal, Tore Tennøe, Knut Senneseth, Ekaterina Denissova, Trude Andersen, Pål Aslak Hungnes, John Rogne, Halvor Flatland, Dianna Medel Carrero, Hanne Skogen, John Rogne, Gry Elisabeth Monsen

• Outcomes and results obtained



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The participants included high-level directors/advisers from IN and RSN. Both institutions aim to enhance the use and effectiveness of “foresight” in their planning and decision-making processes and increase the capacities of their staff to understand and use anticipatory methods. Using a “cascade method”, this LSE served as a train the trainers’ workshop that subsequently led to a successful series of regional workshops on innovation, both in Norway and in the Asian region. The LSE generated lively discussions during break-out groups and plenary sessions which brought to fore the anticipatory assumptions of these policy-makers. As real actors in the Norwegian economy, they seek to build their anticipatory capacities in ways that enhance their ability to understand and act in the face of new challenges. They were particularly interested in finding new ways of addressing emergent socio-economic changes that call for a different innovation paradigm. During the discussions, it was pointed out that concerns about diversifying the economy, and not merely zeroing in on the country’s primary commodities – oil and gas – could be envisaged as one of the images of the future. The metaphor of “going back to knitting” as a craft economy was underlined as yet another futures trajectory. The images of a learning-value economy, driven by innovation and creativity that seek equity and social inclusion came out prominently in the deliberations. At the end of the LSE, the Norwegians expressed their expectations about the planned series of pilot and regional workshops. They underlined the importance of the teleological aspects of the workshops – how these could enhance their foresight capabilities in their particular field of work – which would foster participation from their directorates. UNESCO Foresight will continue to work with IN and the RCN on the design of further workshops.

Rio de Janeiro - November 28-29, 2013

- **Topic**

IMAGINE THE FUTURE OF SCIENCE IN SOCIETY

- **Location**

Rio de Janeiro, Brazil

- **Local Organizer**

Organizer Center for Strategic Studies and Management in Science, Technology and Innovation (CGEE)

- **Summary**

This LSE was conducted with a group of 23 participants gathered by the common interest in the future of science and its implications to society. Evidence of creative and experimental developments in the theory and practice of science can be seen in a wide range of activities, from the recent World Social Science Report¹, which addresses the relationship of humanity to a changing global environment, to recent discussions of “sustainable science”. Movement towards new forms and relationships of knowledge creation, spanning efforts to redesign societal innovation systems and embrace unknowability, are altering, reconfiguring and inventing new ways of thinking and doing science. All of this points towards the importance of opening up what we imagine to be the future of science as one of the ways to assist with a fuller appreciation of the potential of the present. The LSE was carefully planned to achieve this objective. This LSE was held as a satellite event of the World Science Forum.

- **Facilitators**

Attila Havas, Hungarian Academy of Sciences
Cynthia Sue Frewen-Wuellner, Association of Professional Futurists
Cristiano Cagnin, CGEE
Ivone Oliveira, CGEE
Kacper Nosarzewski, 4CF
Lélio Fellows, CGEE
Luciana Cardoso, CGEE
Lydia Garrido, Consultant
Mônica Coutinho, Consultant
Rafael Benjamin, FiraSoft Designer
Riel Miller, UNESCO Foresight

- **Participants**

Carlos G. Acevedo Rocha, Casimiro Vizzini, Daniel Coelho, Edith Madela-Mntla, Eduardo Marques, Elaine Coutinho Marcial, Elaís Cidely Malheiro, Ernesto Fernández Polcuch, Fernando Rizzo, Flavio Plentz, Gordon Dalton, Gustavo Zanini, João Noronha, Krzysztof Kurzydłowski, Lidia Brito, Lilliam Álvarez Díaz, Luiz Lustosa Vieira, Marcelo Gonçalves, Maria Margarita Gual Soler, Nicole Webley, Ricardo Seidl, Robert Firmhofer, Sandoval Carneiro.

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• Outcomes and results obtained

At the end of the process, participants were able to contest current policies and practices towards science, with significant implications for their own work on these topics. The event also provided CGEE with further insights on how to change its approach to developing and addressing new strategic questions, in recognizing new issues that merit further investigation, as well as in transforming its way of designing, organizing, implementing, managing and evaluating its foresight and strategic studies. For further detail see: CENTRO DE GESTÃO E ESTUDOS ESTRATÉGICOS – CGEE. The Future of science in society. Report on the CGEE – UNESCO Futures Literacy Workshop. (CAGNIN, C. H. et al. Orgs). Brasília: 2014. 43 p.

References

1 <http://www.worldsocialscience.org/activities/world-social-science-report/>

Paris January 13-14, 2014

- **Topic**

Imagining the Future of the Transition from ‘Youth’ to ‘Adult’

- **Location**

UNESCO, Paris, France

- **Local Organizer**

UNESCO Foresight

- **Summary**

On 13-14 January 2014, UNESCO ran a two day LSE on the future of the transition from “Youth” to “Adult”. The event was supported by contributions from the Rockefeller Foundation, the Wagner School of New York University, and through the participation of students from Sciences Po Paris, Université d’Angers and Université de Versailles. This event was an applied design testing process meant to set the stage for an FL KnowLab in Sierra Leone. Key participants and the primary facilitator for the Sierra Leone FL KnowLab played prominent roles in this prototyping exercise. The topic, in keeping with the theme selected for Sierra Leone, was an exploration of the attributes and policy implications of a specific phase a person’s life – the transition from ‘youth’ to ‘adult’ when he or she undergoes a set of physiological and social changes that have deep impacts across many dimensions of life, from cultural identity and socio-economic expectations to participation in the political life of the community. This FL KnowLab tested both the substantive content and the process dimensions of the design.

- **Facilitators**

Riel Miller, UNESCO Foresight

Roberto Poli, UNESCO Chair in Anticipatory Systems, University of Trento

Mihaela Ghisa, University of Bucharest

Richard Sandford, Bristol University and FutureLab Singapore

John Sweeny, University of Hawaii

Kewulay Kamara, Steering Committee member for the Rockefeller Foundation project

- **Participants**

Jennifer Rudkin, Roberto Poli, Mihaela Ghisa, Richard Sandford, John Sweeny, Kewulay Kamara, John Crowley, Bruno Gandlgruber, Elif Cepni, Michelle Reddy, Deborah Furet, Issa Wachill, Ariana Lutterman, Jean Hon, Vivian Long, Sarah Mirza, Yasmin Patel, Marie Christelle Gauche, Julie Simon, Maria Minina, Jun Zhang, Charlotte Bayourthe, Marvin Fribault, Laurent Bindel, Jérémy Thalgott, Rochelle Eng, Hyeon Jin Park, Andrea Floudiotis, Katherine Pizzacalla, Elham Torabian, Lorena Olarte Sanchez, Kamina Diallo, Yousra Lakhdar, Elodie Mousterde, Claire Laurent, Hlawulani Mkhabela, Christopher Tullis, Eva Ehoke, Dmitry Borisov, Chun Ho Howard, Mathilde Retore, Haruka Mitsuhashi

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- **Outcomes and results obtained**

This FL KnowLab was very effective in setting the stage for a follow-on event in Freetown, Sierra Leone.

Freetown - January 20-21, 2014

- **Topic**

Youth & Rites of Passage in Sierra Leone

- **Location**

Freetown, Sierra Leone

- **Local Organizer**

Kewulay Kamara, Sierra Leonean storyteller and Executive Director of Badenya Inc

- **Summary**

This LSE addressed the critical issue of rites of passage and the processes in society that mark and enable the creation and expression of identity over a lifetime. The aim was to involve young people directly in a Futures Literacy process, using a wide range of different methods, suited to local context. Policy makers and local activists were also invited to play a role and gain insights.

- **Facilitators**

Kewulay Kamara, Sierra Leonean storyteller and Executive Director of Badenya Inc.

- **Participants**

14 participants, including 4 second-year graduate students specializing in international public policy from New York University's Robert F. Wagner Graduate School of Public Service.

- **Outcomes and results obtained**



The Freetown LSE yielded a number of noteworthy programmatic successes. To begin, the LSE established a platform and an open-forum by which Sierra Leonean youth could have meaningful dialogue pertaining to futures literacy, youth policy, and current national affairs. More importantly, however, the LSE integrated youth into the conversation and gave each participant a

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voice. Furthermore, throughout the course of the two-day workshop, participants were, in a sense, enabled to recite their own personal narratives freely amongst one another, in an open and safe environment—this prompted deep and fulfilling conversation that almost every participant related to. Moreover, the LSE also established an overarching framework for youth in Freetown to think about the future and answer important questions.

An extremely important factor that played into the success of the LSE workshop in Freetown was its cultural sensitivity. One of the ways that this was achieved was through methodological innovation. For example Mr. Kamara began each morning with a libation prayer that helped set the stage and tone to create dialogue about the past, present, and future. The adoption and active awareness of local discourse and context helped drive and motivate participants.

Furthermore, despite the small quantity of participants, the LSE had an extremely diverse turnout. Many had varied levels of education and worked in various fields – for example: a few participants worked in the arts, two participants worked in education, one participant worked with the Minister of Finance, and another worked in media.

The Freetown LSE received positive feedback from the LSE participants. As such, the Freetown LSE holds potential for replication – to combine the lessons learned from Freetown and to serve as a framework and model to further develop and organize future LSEs in Sierra Leone and throughout West Africa. To add, the local media coverage of the LSE incited discussions and excitement across Freetown and neighboring towns and villages in regards to the workshop topics and UNESCO involvement. This LSE was the object of a work conducted by students at New York University Wagner.

5. **Developing futures literacy through collective knowledge events: connecting theory and practice**

Richard Sandford¹⁸

Introduction

This document is a report for the UNESCO foresight team, describing the impact of various events run over the course of 2013-2014 on participants' capacity for understanding ways of imagining the future and relating some individual outcomes from the events to wider theoretical perspectives. The events took place under the "Scoping Global/Local Anticipatory Capacities" programme, a collaboration between the Rockefeller Foundation and UNESCO intended to understand the ways in which global, regional and local actors make use of the future in their activities. A series of 'Local Scoping Exercises' (LSEs) were held that were designed to function as 'action research', actively developing futures capacity amongst attendees, while at the same time revealing the anticipatory assumptions and practices of the members of different communities of practice represented at the events, and making a contribution to the understanding of a complex topic of local relevance. These events followed a process designated the 'Futures Literacy UNESCO Knowledge Laboratory', or 'FL-UKnowlab' in abbreviated form.

The development of the programme of work described here arose from the conviction that, first, people regularly make use of anticipation in organising their lives and work, and that, second, they do so while largely unaware of this anticipatory practice. By 'anticipation', here, I refer to a broad range of formal and informal assumptions and beliefs that people might employ, tacitly or explicitly, knowingly or not, in different spheres of their lives when making decisions in the present that are informed by an understanding of the future. Organisations also make use of the future in this way, to order their engagement with the present-day world, and the sense that this is done with little self-reflection applies to them too. The assumptions and beliefs that people hold regarding the future — concerning what is or is not possible, which factors do or do not affect areas of their concern, what risks are or are not manageable, and so on — are for the most part hidden and unexamined.

The project's central concern can be understood, then, as one of capacity building, developing the capacity of people to use the future in a more self-aware and potentially more effective fashion. There is an underlying assumption for the project as a whole that

¹⁸ The author gratefully acknowledges the perceptive and insightful comments from Riel Miller and Roberto Poli which have greatly strengthened the paper.

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if the future is addressed in a more open and explicit way it could be beneficial for the distinct but related processes of decision-making. This is particularly relevant in the context of the present moment as human understanding combines a better grasp, on the one hand, of complex emergent reality as full of novelty and creativity, and on the other hand the scale of the challenge of acquiring the capacity to free (Sen, 2011) From this perspective it is quite important to introduce ‘futures literacy’ as a way to expand beyond the predictive premise that reduces efforts to use the future to arriving at the probabilistic guesses needed to underpin planning. The idea of ‘futures literacy’ as tested in this project, is that such capabilities allow people to add other ways of appreciating and using the future, ways of deploying and designing anticipatory systems that offer alternatives to planning.

The project further understood that approaches towards addressing the future, whether attuned to complexity and uncertainty, or focussed on techniques for effective planning, do not arise independently but are the product of social practices. Groups with an interest in some aspect of the future develop or adapt ways of managing it in their work: existing ‘communities of practice’ (Lave and Wenger, 1991) build an expertise around the use of the future that is situated in the context of their particular activity, relevant to their concerns and consistent with the general worldview that underpins their projects. A motivating concern for the project was to better understand the ways in which different communities of practice conceive of, value, and interact with the future, in order to build a greater awareness of the provenance and underpinning epistemic stances of particularly visible approaches to foresight, and to develop a greater sensitivity to the multiple ways in which different stances towards the future might benefit different groups. In the event, undertaking a systematic study of this topic was not feasible with the resources available: however, the question of how different knowledge communities manage uncertainty and make sense of the future remains vital to any deep understanding of present and future approaches to foresight.

The first section of this article describes this notion of ‘futures literacy’ in more detail and offers some support for imagining that making assumptions about the future visible will contribute to building a futures literacy capacity. The next section offers an account of some particular events that took place under this programme, illustrating the different ways in which the events served to build foresight capacity and futures literacy. It opens with a general overview of the core features of the event format, before analysing data from particular events that took place within the programme, and presenting what can be learned towards addressing the concerns described above. That they served to build futures capacity through developing individual futures literacy is demonstrated. However, this alone is not sufficient for us to begin to offer an account of what took place in this process. Additional questions are raised by the participants’ experiences, and to understand them, some engagement with theory is required.

In the third section I draw on theoretical treatments of the future, most directly from what is becoming known as the ‘discipline of anticipation’, to situate this process within a broader understanding of the future, giving the findings some relevance beyond the local context in which they occurred. This exploration of the questions raised earlier serves as a practical demonstration of how theoretical resources that address anticipation can

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illuminate the phenomena observed when trying to build people's capacity to understand how the imaginary future is constructed and put to use in conscious human thought.

In the final section I summarise the arguments and evidence presented, and restate the claim that the series of events have made a positive contribution to the way people think about and make use of the future. This final discussion makes a further claim that the article has gone some way towards demonstrating that futures studies benefits from engaging with theory, suggesting that the practical, 'craft' foresight work that some might argue needs no such theoretical basis (as described for example in Poli, 2013) has been better understood through considering the theoretical resources available, enlarging our understanding of the processes set in motion by the various events of the programme, and better equipping us to continue to develop the capacity to make use of the future.

Aims and questions

The fundamental assumption informing the development of the workshop format is that, while in their everyday lives people necessarily make use of anticipatory assumptions and draw on beliefs about the future, in order to do anything from crossing the road, to purchasing life insurance, to deciding to take up tennis, the work done by these assumptions and beliefs in directing action and making a certain path attractive is invisible and unrecognised. Yet the quality of decisions that people make and the ease with which they navigate the possible future paths open to them are much increased if these assumptions are made visible to people.

This understanding of the way people relate to the future is grounded in the experience gained by the project co-ordinators through practicing the craft of foresight over a long period with a range of groups and actors. While this is an understanding that is well-attested within the community of foresight and futures professionals, it is not, at present, supported to any great extent by empirical research. Highlighting this gap is one of the aspirations of the LSE events.

Alongside this understanding of the way the future is often employed by those outside the professional foresight community is the notion of 'futures literacy', another concept with a wide currency within futures scholarship, and one described differently by different authors (e.g., Krawczyk and Slaughter, 2010; Miller, 2007; Slaughter, 2001). In general, individuals with 'futures literacy' are reckoned to be more aware of the rhetorics, values and assumptions that shape the dominant or 'common-sense' ideas of the future that inform the decisions they take and the expectations they hold towards likely outcomes. They are more ready to question received ideas about the most appropriate response to a given future, and better able to imagine alternative ways for events to play out. For decision makers in the public and private sector, working within the conventional imperative that uncertainty should be managed and reduced, this capacity to better apprehend the qualities of the future allows them to recognise (for example) the distinction between risk and uncertainty, between manageable complication and unmanageable complexity, between phenomena that can be understood with access to sufficient information and phenomena that are at bottom fundamentally unknowable.

These ideas are widespread, both within futures studies and more generally in, for example, the kind of business material that discusses leadership in a 'volatile, uncertain,

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complex, ambiguous' world. In this paper I will work with one particular understanding of 'futures literacy', developed by researchers closely involved with the development of the FL UKnowlab process (Miller, Poli and Rossel, 2013; Miller, 2007). This model of futures literacy distinguishes three broad stances towards making use of the future: optimisation, contingency, and novelty. Within an optimisation perspective, the future is imagined as simply another now, reached incrementally in a series of steps moment to moment: this perspective assumes a continuous system that can be optimised towards a particular aim, enabling the intended or unintended colonisation of the future. Existing practices and patterns are projected forwards in time. Alternatively, within a contingency perspective, the future is imagined as one of a number of different possible outcomes, shaped by external forces, for which one must prepare. The forces shaping this possible outcome may be known, or the outcome may be perceived without understanding the forces that give rise to it: in any case, it is a contingency that must be prepared for. Risk management and other approaches towards responding to 'known unknowns' reflect this stance, which has underlying it a desire to minimise disruption and preserve what can be preserved from the present. The optimisation and contingency perspectives are the most visible and dominant approaches towards the use of the future in Western societies, reflected in the rationales offered for decision-making by strategists and policy-makers. In each of them the future is external and removed from us, either yet to be constructed or yet to be encountered.

A third approach towards the future focuses on the capacity of the present to give rise to novel events that are fundamentally unknowable: they are emergent, not predictable, and cannot be extrapolated from present perceived conditions. The future is understood as being in the present: the novelty approach aims to question the existing sense-making practices that shape our perception of it, focusing on better understanding the generative potential of the present rather than mapping paths to a particular future. Doing this requires that attention be paid to the ideas, concepts and values that structure our engagement with the world, and to the practices and behaviours that I can develop to better work with the emergent unknown.

Miller (2007) characterises the value of futures literacy in these terms:

FL embraces the profound unknowability and contingency of the future by developing the capacity to imagine and analyse the potential of the present in ways that are more consistent with our present values. FL is neither about predicting what will happen nor planning the path from A to B, but about improving the capacity to imagine and assess the potential of decisions made now to create a future by putting values into practice. By combining an openness to the potential of the future with a greater ability to invent stories that make sense of the present, FL produces strategic insight without prejudicing the autonomy of people in the future to see different options and hold different values.

Having the capacity to distinguish between different views of the future, and the different contexts in which each might be relevant, is a fundamental aspect of 'futures literacy', as is the understanding that these multiple ways of understanding the future interact with each other: they are not three separate options to choose amongst, but different

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approaches to the future that may be employed to some degree at overlapping times as perceptions of the future move between them (for example, as a contingency becomes perceived as a future that can be optimised).

In the context of the development of the LSE events, the notion of ‘futures literacy’ was described to participants as a systematic approach towards identifying existing anticipatory assumptions and creatively developing novel ways of imagining alternative futures. The events were structured in such a way that participants would, it was felt, acquire this capacity through the practical, hands-on activities they experienced, with the initial activities dedicated to supporting people in unravelling their anticipatory assumptions, and the later activities concentrating on ways of reperceiving the ambiguous and uncertain present moment as a source of possibility and potential. It should be noted that there is no intention here, in using the notion of ‘futures literacy’, to characterise participants as somehow deficient in their capacity to use the future. Rather, the aim is to demonstrate, through the reflexive process of the event, that participants already work with a sophisticated understanding of the future, and that, where this understanding is largely tacit and implicit, participants’ engagement with the future can be further elaborated through making their understanding voiced and explicit.

This paper, then, addresses two questions that arise from the original hypothesis, that people use anticipation without being fully aware of how they do so:

- 1) Is it possible to make these hidden assumptions regarding anticipation visible to those that hold them?
- 2) Is there value in doing so?

Any indication that it might be possible for both of these questions to be answered in the affirmative would suggest that the LSE format was indeed capable of developing futures literacy and building the capacity of organisations to respond to the future.

Data from LSE events

In this section I describe the core features of the format as presented to participants, illustrating the common structure connecting each different LSE, before data from some of the events is presented and examined in the light of a set of general research questions. This analysis demonstrates that the basic impacts expected of the LSE can be seen. The subsequent section relates this practical claim to a wider theoretical perspective on anticipation.

The format of the LSE was informed by previous work undertaken in a number of different settings. In particular, work at the OECD’s International Futures Programme provided an opportunity to develop an early account of ‘futures literacy’ (Miller, 2007). A later series of workshops or ‘futures meetings’, held under the heading “FuMee” (<http://www.fumee.org/>), brought together researchers from a range of disciplines to explore different approaches toward the future: not methods, but underlying principles that underpin the field of anticipation and can be used to develop futures literacy. Some members of the network contributed to the work of the LSE design committee, who set the core purpose and aims of the event format: to develop the anticipatory capacity of

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participants, to generate new and specific questions regarding the nature of the domain in question, and to surface existing futures-related practices in use within the communities represented at the events.

These aims were given practical expression in the general FL UKnowlab format. The intention was that these facilitated events would materially contribute to efforts to address specific local concerns, tackling a complex, dilemma-filled situation not considered effectively tractable to traditional planning approaches. Each LSE was designed in collaboration with a local sponsor with a remit to address such a topic, convening local stakeholders (NGOs, policy makers, academics, activists, citizens) in an event running, in most cases, over one or two days. The format took as a starting point the existing assumptions and practices regarding the future that participants brought with them to the event, situating them within a domain of inquiry set by local priorities and concerns. Through making these existing future-facing ideas visible to participants, setting them in a novel and unfamiliar frame to examine and assess them anew, and using this reframing process to generate new questions regarding the topic under consideration, the process aimed to produce new perspectives on this domain, and to demonstrate the value of engaging with uncertainty and possibility. Every workshop is custom designed to take into account the rich specificity of each context. However since the process always entails discovery and learning it is practical to apply the general architecture of a cognitive process – a learning-curve – to structuring the sequence of actions that make up a generic agenda. The following is a typical example of the design of an FL Uknowlab process:

Phase 1: revealing existing anticipatory assumptions

In groups, participants discuss their understanding of the subject and their current beliefs and ideas about its future development. The conversation is conducted in two parts that distinguish hopes or preferred futures from likely or predicted futures. Afterwards, these breakout groups report back to a plenary session, sharing their imaginings of likely and hoped for futures: the facilitators help lead a discussion that identifies and elaborates the anticipatory assumptions as articulated by the participants – the largely tacit models used to imagine the future become more explicit.

The entire process relies on the same source, the ‘collective intelligence’ of the group, or shared meaning-making through a conversational process that obliges participants to examine and articulate what they know about the future of the chosen topic. Such conversations can be more or less structured, longer or shorter, mined for meaning or just skimmed, but in most cases comprise the easy (or at least less-steep) part of the learning curve. This is when people make explicit what they know, and try to find common meanings without necessarily seeking agreement or consensus.

Phase 2: reframing, inventing new anticipatory assumptions

In this phase participants take a further step in developing their understanding of the nature and role of the anticipatory assumptions they use to frame their perceptions, priorities and actions, continuing to develop futures literacy through the collective intelligence process. Again, in practice, there are as many ways to undertake a reframing exercise as there are contexts. The central aim, however, is to enable participants to

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project themselves into a scenario or narrative that is radically discontinuous from the present context, one that challenges received ideas about systems, agency, knowledge, communication, social structures and so on. The reframing exercise enables participants to immerse themselves fully in this ‘alternative’ scenario through a process of ‘rigorous imagining’: the aim is not to explore the ways in which such a scenario might come to pass, nor to assess the extent to which such a scenario might be likely or desirable, but to accept it and ‘think oneself into it’ as completely as one is able.

One approach, deployed for a number of LSEs, uses a detailed framework constructed to be radically different from current models of societal functioning, described as the ‘learning intensive society.’ Participants are provided with a series of analytical tools that enable them to describe a society in which the processes and structures of production have been fundamentally transformed. On this basis, enabled by technological and capability changes, learning becomes the predominant activity: society operates as a dynamic and continually-shifting set of interacting networks in which identities are more fluid, people participate in a culture of creative experimentation and rapid failure, and learning is something that happens continuously through this process. The scenario is intended to challenge fundamental ideas about responsibility, agency, causality and the nature of the self, giving participants the opportunity to re-examine their anticipatory assumptions and thereby gain a better understanding of how their ideas about the future alter their perception of the present, in addition to providing indications of the methods and communities they work with when using the future.

Phase 3: new questions, a capacity to think about changes in the conditions of change

In the third phase of the process participants are invited to revisit the anticipatory assumptions they articulated during the first phase and reconsider their models for describing the imaginary future in the light of a heightened awareness produced during the second phase of the process. The reframing process has offered participants a new vocabulary or palette with which to imagine and describe the future, making it possible to ask new questions that might, in the context of the old frame, have seemed unimportant or inconsistent. This session gives participants a direct experience of the way our sense of the current moment is shaped in part by the expectations we have about what happens next. Once again the purpose is to provide participants with an opportunity to articulate their anticipatory assumptions and signal how the future enters into the activities undertaken by their specific community of practice.

Data collected

The intention throughout the series was to use the events to generate data that would inform the organisers’ understandings of the way different groups make use of the future, and of the effectiveness of the process in developing futures literacy. A set of general research tools intended to support this process were drafted by members of the LSE design committee. In practice, differences and variations in the organisation and execution of individual events, alongside the need to be responsive to the local sponsor’s requirements, led to the design and implementation of non-identical processes. This variation, while indicative of the degree to which each event was a local product rather than implemented top-down, limits the ability to assess the relationship between formally

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identical processes and specific outcomes. A number of surveys were carried out that produced qualitative data that may be analysed for indications that the sought-for impact was achieved. In addition, several summary reports were created by the organisers and facilitators of various events.

There are consequently a number of caveats regarding the data presented here. The survey responses from each event (what might be considered ‘primary’ sources, reported by participants) are in general from a subset of those participating, in response to surveys written in English that offer a number of leading questions and assume particular understandings of key concepts. The reports (what might be considered ‘secondary’ sources) are necessarily partial and mediated accounts from a particular perspective. There is little empirical data available (some of the sessions were recorded, but resources for in-depth analysis were not available). The data shared should be understood as arising from different cultural and societal contexts, and not representative of the entire population of those attending these events (indeed, given the low response rates it should be understood as representing a minority). Consequently, the claims made from the analysis will be limited.

The data examined here is drawn from the following material:

Item	Event	Responses
Post-event survey	Paris	13
Pre-event survey	Future of Cities	13
Post-event survey	Future of Cities	14
Post-event survey	Sao Paolo	24
Event report	Sao Paolo	-
Event report	Bogota	-

Analysis

The analysis is structured around two basic research questions, derived from the aims of the LSE:

What assumptions about the future on the part of participants are visible?

What indications are there from participants that they have developed futures literacy?

Textual analysis of the responses to the Paris post-event survey (the item with the richest material from respondents) was carried out using a thematic coding approach. The research focus was embedded in the structure of the forms employed by participants to generate their responses, making it possible to begin by applying descriptive codes to participants’ responses, then clustering these emergent themes into key categories that

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spoke to the overarching research questions. Having produced a set of codes capable of organising responses in relation to this analytic focus, they were used to analyse the remaining surveys from the Future Cities event and Sao Paolo, producing a revised iteration of the set of codes used to understand participants' representations of the process they went through during the event. This set of codes were used to structure an investigation of the reports from Sao Paolo and Bogota, looking for the presence of similar themes in the observations of the report authors.

Findings

Assumptions towards the future

Investigating the assumptions towards the future held by participants is problematic with the data collected, since the surveys presented a pre-defined and limited set of stances towards the future for respondents to choose amongst. A change between the options selected by participants before and after the events would be a relevant indicator, assuming that they originally held a different perspective towards the future. This was visible in a few cases: for example, in the Future Cities event one respondent offered these two responses to a question about how they think about uncertainty.

Pre: The future is uncertain. I look far future sometimes with fear.

Post: Uncertainty – is not a threat, can be taken as a challenge.

A colleague at the same event noted that they were now able to:

Take the time to question some of my own (and shared) assumptions that I use in my work in education/training policy about what young people will “need” to live, learn, be citizens, and work in the 21st century.

Others reported a new awareness of their thoughts towards the future.

When I think about the future, I think of many challenges of different sort : environmentally, politically, economically. At the same time I have a quite optimistic image of the future and for example when thinking about environment many new technologies come to my mind

After the Paris event, some participants noted a change in the way they considered the future:

New awareness of complexity of defining what an adult is; of the tension between social and administrative definitions and personal and tacit understanding and needs. Became aware of my own habits of mind about the subject through my interactions with the group and seeing their presuppositions

It made me question the definitions and social norms we adhere to when thinking about what characterizes that transition.

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The workshop facilitated my out-of-the-box thinking about that those terms mean, whether they should mean anything at all, who defines those categories, and how they are shaped by and influence other systems

Became aware of my own habits of mind about the subject through my interactions with the group and seeing their presuppositions

The future as a construct is a very effective tool to make me aware of my own 'idéés reçues' and also to loosen and stir up my creativity

And this respondent from the Future Cities event got to the heart of the issue:

After the workshop I had a feeling of uncertainty: I understood that the dominant structures in life (the paradigm) are not fixed and taken for granted. I know understand that this can be a source for real new ideas and insights. I guess that these methods really enable you to think out of the box.

Developing futures literacy

The notion of 'futures literacy' appealed to many participants. One, at the Future Cities event described it as how:

to learn how to use the future in a better way. (For myself, for the society I am living in.)

while another in Paris was pleased to have learned about the existence of formal future studies.

It is great to know that there is a field that welcomes and encourages uncertainty, spontaneity, and a break from existing patterns in regards to futures-thinking

Some participants used language that recalled notions of complexity and emergence, concepts at the heart of futures literacy. One participant described their new understanding of

how [systems] are shaped by and influence other systems.

while others showed an awareness of the nature of connected factors:

I am more aware of the importance of networks (people, videos, internet, fb etc) in the exchange of knowledge and skills

impacted by many different evolving factors

New questions regarding the subjects of the workshops were generated:

What can we do with education in order to adapt to the transition to an evolving world?

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How will universities and firms adapt to this new system of learning skills and studying?

Who decides? What is responsibility? What are the parameters of childhood?

How and by whom to judge the completion of transition process? What happens if the "young" is unable to complete the transition for "adult"? Is he/she regarded as failure of adulthood due to the transition?

There was reference made by participants to the value of embedding futures literacy within institutions (particularly universities — perhaps unsurprising given the number of attendees affiliated with academic institutions):

The main contribution can be teaching them "Future Literacy" which is an original idea and not used a lot in the curricula of universities.

All these can be done by arranging some courses (short term, longer term, summer schools etc) covering these issues. I am working in a university that my organization is partly doing this directly or indirectly through different activities. The main contribution can be teaching them "Future Literacy" which is an original idea and not used a lot in the curricula of universities.

My job is to help my institution 'develop' and so a big part of my function is encouraging (goading!) people into looking ahead and attempting to set objectives in the future

The immediate conclusion that can be drawn, then, is that, notwithstanding the many limitations with respect to the collection of data, it is possible to claim that the LSE format is capable of developing the kinds of stances towards the future that make the attributes and role of anticipatory assumptions clearer.

There are, in addition, further questions that arise from the data, ones that do not fit easily within the general headings of 'assumptions about the future' or 'developing futures literacy as a capacity' derived from our initial research focus. Some examples arising from responses to the events are listed here:

- What structures, frames and metaphors do people use to describe their personal futures?
- What structures, frames and metaphors do people bring with them from their professional engagements with the future (for example, in managing risk)?
- Are there domains in people's lives that they more readily associate with an idea of the future?
- How ready or likely are people to hold multiple, conflicting ideas of the future (for example, embracing ideas of emergence in discussions but working with linear planning approaches elsewhere)? What purpose is served by making these differences explicit?

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- What is the relationship between people's perceptions of the future and their perceptions of the future of a particular domain?
- Do people believe that the role of futures studies is to understand what may happen, or to bring about a particular future?
- Related to this last question: how do people understand their agency with respect to the future? What tensions are there between futures to be understood and futures to be created?
- How far is a perceived moral obligation to bring about a particular future limited by an awareness or perception of the constraints that bear on agency?

To be able to render these tractable to analysis we can draw on a body of theoretical work that underpins the notion of 'futures literacy' used here, and offers some resources for considering anticipation in more depth. The next section aims to illustrate how this theoretical resource might begin to be employed in better understanding these questions, not by offering definitive answers but through imaging possible ways in which these issues could be described using these theoretical tools. Of course, a fuller exploration of potential answers to these questions would require investing in more data creation, collection and analysis. What follows, then, is not an attempt to answer the questions above but rather an attempt to show how asking them offers an opportunity to engage with a wider body of theoretical understandings of the future, and in doing so make them easier to act upon.

Theoretical perspectives

This section attempts to illustrate how asking the kinds of questions that arise naturally from considering the outputs of FL UKnowlab events can lead to an engagement with more theoretical approaches towards the use of the future. It sketches some connections between the areas covered by the indicative questions offered in the earlier section and wider theoretical views of the future and anticipation. These theoretical views are taken in the main part from Miller, et al. (2013), Poli, (2014, 2015), which, alongside other work (e.g., Poli, 2010), I am regarding as constituting the beginning of a 'discipline of anticipation', an academic project particularly concerned with the theoretical underpinnings of the ways in which the future may be used to understand the present: the characterisation of these authors' positions here should be understood as illustrative rather than comprehensive.

Taking the questions from the previous section as models of the kinds of concerns that are surfaced through these events, then, we can think of them falling into three broad areas of enquiry. The first two questions:

- What structures, frames and metaphors do people use to describe their personal futures?
- What structures, frames and metaphors do people bring with them from their professional engagements with the future (for example, in managing risk)?

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— are concerned with different kinds of views of the future. Participants noted a variety of ways in which they were asked to make use of the future in their personal and professional lives:

I use and think about the future all the time. For planning things, making decision, imagine project

I usually use the results of data mining, participate to building scenarios and morphological analysis in urban and territorial design and planning, given that data mining, scenario methods and morphological analysis have the same meaning for an architect/planner, as I am, and for a ‘future expert’

Managing risk

I have to think about my future first and how to plan what I want to do and be

There are, even in these short quotes, a range of approaches to the future: “imagining” projects and thinking about “my future”, creating visions of a desired future; planning and decision-making, projecting ideas of a desired future forwards from the present; “managing risk”, envisaging different futures with varying degrees of probability and preparing accordingly. One respondent names a set of techniques associated with formal planning practices used across disciplines. It can be seen, here, how different communities of practice might develop a practical familiarity with particular techniques and approaches towards the future that resonate with the concerns of the group. Indeed, two such communities are named — architects and urban planners, and ‘future experts’ — and their overlapping interest in specific tools noted. These tools might be considered ‘boundary objects’ (Star and Griesemer, 1989), facilitating the exchange of knowledge and ideas across different contexts.

Within the discipline of anticipation, these different ways of knowing the future are recognised and appreciated for the value they bring in the appropriate contexts. Authors in the field have, however, highlighted the tendency of all these visioning, planning and managing approaches to represent the future as being “over there”, distinct from the present situation, and suggested that it might be possible also to see the future as something embedded in the present, either latent and in progress but yet to surface for our attention, or as possibilities that exist unperceived.

These correspond broadly to the ideas of optimisation, contingency and novelty mentioned earlier. Planning approaches might be thought of as concerned with optimising a known future, making incremental and linear moves towards a final result. ‘Managing risk’ is an effort to prepare for various imagined contingencies (‘known unknowns’) that may be more or less visible. These two are well-established and codified within a majority of professional and managerial contexts. Perceiving novel possibilities for action in the present, in effect enlarging the future from within the present, is less widespread as a practice, though those who do so are often feted for their leadership or insight. The key distinction is between efforts to improve or optimise configurations of effort and resource that already exist, and efforts to seek out new, and potentially disruptive, configurations. Within the domain of futures work, there is a parallel with the practices of forecasting (extrapolating within a closed, well-understood system), foresight (making an effort to

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imagine alternative ‘plausible’ futures, usually working within a broader set of assumptions about roles and structures that remains unquestioned) and the more critical and reflective approach of ‘futures studies’. Being able to distinguish between these various approaches is a key component of futures literacy.

Drawing on a theoretical view of anticipation, even to this relatively surface extent, has allowed us to refine the questions, using a framework for understanding different ways of considering the future that could be used to classify other forms of futures practice and relate them to those mentioned here. More than simply listing the metaphors and structures employed by people in talking about the future, this theoretical framework allows us to organise the ideas of the future that are seen in participants’ talk and, importantly, offers an idea of what is not present alongside what is, revealing conceptions of the future that might be available to people but are not currently part of the way they think. In this way the use of theory supports capacity building, developing people’s capacity to think about the future in a productive way, and perhaps hold out the prospect of people recognising the appropriate form of future thinking in different cases, rather than continually approaching the future with one habitually reductionist stance.

There are a number of concepts that are implicit in this framework that will be unpacked a little further in the light of the remaining questions: models, open systems, complexity and levels of reality. These become more relevant in the light of the second group of questions, which display a concern with the relationships between these multiple ways of regarding the future. How do these different views work together? Of the initial set of questions arising from the events, these three are concerned with making multiple views of the future work together —

- Are there domains in people’s lives that they more readily associate with an idea of the future?
- How ready or likely are people to hold multiple, conflicting ideas of the future (for example, embracing ideas of emergence in discussions but working with linear planning approaches elsewhere)? What purpose is served by making these differences explicit?
- What is the relationship between people’s perceptions of the future and their perceptions of the future of a particular domain?

Aspects of these concerns were evident in some participants’ responses:

When I think about the future, I think of many challenges of different sort : environmentally, politically, economically. At the same time I have a quite optimistic image of the future and for example when thinking about environment many new technologies come to my mind.

I try to pay particular attention to the present and try not to lock myself into projections and imaginings about the future

The workshop has confirmed what I thought deep inside, that the future is not linear and that anticipating the evolution of things can help in designing my future

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- The issue here is not especially disciplinary — the concern is not immediately with asking whether engineers share a sense of the future with chemists or historians, for example, but rather with how different modes of knowing the future interact within subjects. These participants identify a number of different modes of knowing the future that co-exist: internal intuition (“what I thought deep inside”), constraining “projections and imaginings”, the contemporary technosocial problematique that frames our thinking about future conditions (“many challenges of different sort”) and personal visions that might be as much affective and dispositional as grounded in content (“a quite optimistic image of the future”). Again, following the direction established earlier, these different ways of imagining the future are not presented here as inconsistent or in conflict with one another. The discipline of anticipation recognises that individuals may have multiple ways of considering the future, whether formally as described above or on a more personal level.
- One of the key things the discipline of anticipation allows us to do is recognise that many different academic disciplines have addressed the future and anticipation. In this case, where we are interested in the subjective perception of the future, there are contributions from psychology and philosophy that are relevant, though these can be noted only briefly. In psychology, the notion of prospection has been used to describe the influence of beliefs about future states on present action (Seligman et al., 2013; Gilbert and Wilson, 2007): the focus is on the individual and the simulations they construct of future events based on (selective, not always accurate or representative) memories of past events. The degree to which decisions made in this way are conscious or automatic is contested (Fukukura et al., 2013), and there exist various cognitive biases that impute an unwarranted degree of stability to future events (Quoidbach et al., 2013): these features of the process make an eloquent argument for increasing the general capacity of people to reflect critically on the ways they represent the future to themselves. In any case, in trying to make sense of the ways in which people understand the future as it relates to them, prospection theory offers one set of resources.
- There is a further approach available to us that preserves the focus on the subject while allowing a consideration of futures beyond the psychological, grounded in the phenomenological understanding of a “thick present”, following Husserl. Rather than considering the interface between past and future to be a mathematically-thin boundary, the discipline of anticipation recognises that the present “requires, consumes” (Poli, 2014) time, and conceives of it as comprised of a series of near-contemporary intervals of time. Describing the present in this way, as an extended moment rather than an extensionless boundary, enables a number of important moves to be made. First, it allows the recognition of different kinds of present — not simply the psychological or specious present, but also various kinds of social present that play out at different timescales. The key is that the present is whatever is contemporaneous to the subject: the individual, organism, or system under consideration. For some social contexts, such as (say) media, the present might be days or hours long (depending on the story or concern), while for others, such as legislation or academic disciplines, the present moment of contemporaneity might span years. Each present consists of distinct time intervals: these intervals may all be mapped onto external ‘clock time’, which can act as a common mechanism of exchange mediating between them (a temporal lingua franca, perhaps, or a koiné temporality), illustrating that these various presents are each embedded in the other.

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Thinking about multiple presents in this way makes it possible to understand what seem like inconsistencies in individual views of the future, as illustrated in the questions above. Within a thick present, a personal sense of continuity may well co-exist with an understanding of rapid technological change or an intellectual appreciation of risk assessment.

- These different processes — psychological, biological, social — play out not only with different timings and rhythms but on different levels of reality. The notion of different levels of reality is central to many orthodox realist philosophical positions: a discussion of the various levels that have been proposed by different authors is not relevant, but the general position might be summarised as being that higher orders of reality (e.g., events, mechanisms) are produced by lower orders (e.g., mechanisms, structures). From the perspective of people trying to understand the future, the crucial aspect of this position is that many levels of reality, and the processes that unfold on these levels, are hidden to us: consequently, events may be in train that ensure particular future circumstances are certain, but we remain ignorant of these processes, though the consequence will be clear to us. This is connected to the related but distinct idea of ‘latent futures’ (Adam and Groves, 2011; Poli, 2009) and the notion of ‘generative mechanisms’ (Bhaskar, 1998) — very briefly, the understanding that there exist entities at various levels of reality that have the capacity to act a certain way or to give rise to particular outcomes, and that this capacity is not necessarily exercised: the features and qualities that are associated with the exercising of such a capacity are thus latent, potential but not actual. In this way the future is truly embedded in the present, not simply in the sense that events are unfolding of which we are ignorant (but which are real), but in the sense that conditions may change that create the circumstances for potentialities to become real.

- These ideas of latency and levels do not directly help us understand the source of people’s particular understanding of the future. But they offer a way of understanding what initially looks like an inconsistent set of claims about the future. Perhaps the purpose served by drawing attention to what look like inconsistencies is to give people a motivation to engage with this more structured way of understanding the future.

The final three questions from our examples raise issues of agency, values and ethics, considering the obligations that fall on individuals and organisations, and the degree to which they can understand themselves to be capable of the kind of actions that appear necessary.

Do people imagine that the role of futures studies is to understand what may happen, or to bring about a particular future?

Related to this last question: how do people understand their agency with respect to a desirable future? What tensions are there between futures to be understood and futures to be created?

How far is a perceived moral obligation to bring about a particular future limited by an awareness or perception of the constraints that bear on agency?

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or many participants, considering the purpose of engaging in anticipatory thinking was naturally linked to their wider concerns about social justice and the survival of future generations:

The main questions I have are concerned with global equity and if we will manage to share what we have so that people in the developing world can also have an adequate level of well-being.

Became aware of my own habits of mind about the subject through my interactions with the group and seeing their presuppositions”

I wish humans will survive forever on the planet. That's why I give a great importance to future literacy (decision making capacity) and the endeavour to change the conditions of change.

Do we need existing institutions (governments, rules, traditions, etc) or can we create new systems which could lead to more creative, happier, healthier, equal societies?

It is great to know that there is a field that welcomes and encourages uncertainty, spontaneity, and a break from existing patterns in regards to futures-thinking.

There are two characterisations of agency in these quotes: acting to create change, and acting to create the conditions for the desired change. Dealing fully with agency and causation is beyond the scope of this paper. We want here to just briefly introduce two further concepts from the discipline of anticipation that have some bearing on the question: the models of the world that people choose to work with, and the quality of systems of being closed or open. By ‘model’, we mean to refer in the broadest sense to any cognitive structure that supports the development of an idea about the future of something: a theory, a belief system, a hope or fear. The key feature is that the model allows a prediction to be made, explicitly or implicitly, regarding a future situation: this prediction can accordingly inform action in the present. The prediction may be groundless or delusional, or it may be entirely accurate, but the process is the same: a model supports the creation of an imagined future, which informs action in the present. This process is one form of anticipation.

We can think of a model as referring to a system of some kind: again, this may be more or less detailed, may be tacit or explicit, but in principle a model is concerned with a set of entities and the relations between them. Systems may be open or closed: in a closed system, there is no exchange with the wider world, while in an open system there is interaction with the wider environment. Closed systems are amenable to probabilistic modelling and prediction, and the hypothesized consequences of intervening within them can be derived (as hypotheticals subject to the error term). Open systems, on the other hand, through their interactions with other systems are more likely to be complex and to behave in non-linear ways, giving rise to emergent behaviours that cannot be modelled in a probabilistic way. The consequences of intervening in a complex system are not predictable.

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The relevance here is that the outcomes of action may not be what is expected, if individuals are working with the wrong kind of model. That is, if an open, complex system is modelled as a closed, linear system, the degree to which exercising agency will have the desired response is likely to be misunderstood. If agency is thought to only be exercised through closed models the willingness to develop improvisational, non-closed ways of thinking and doing could be inhibited. This has real consequences for decision-making. Asking questions such as, “can we create new systems which could lead to more creative, happier, healthier, equal societies?” can be seen then to demand first an understanding of the present systems and the degree to which agency can be directed within them to the desired ends.

Understanding the degree to which it is or is not possible to act towards a given end within a system has a bearing on the perception of moral obligation. It may be useful for policy-makers, for example, to understand that making a commitment to bringing about a particular state of affairs in a complex system such as (say) the global financial system may not be meaningful, in the sense of being achievable. Similarly, for individuals concerned with taking action to (for example) reduce carbon emissions, it might be important to understand that the outcome from their offsetting a flight or travelling by bicycle will not be visible. This is not for a moment to argue against acting from a sense of moral obligation (or indeed to argue against carbon offsetting or bicycling). The point here is that ordinary understandings of an individual’s actions in cause and effect are not useful when interacting with complex systems. In complex environments, moral choices ought to be taken for being the right action in themselves, and not in order to achieve a particular end. Acknowledging the complex nature of the world, and that our actions interact with latent futures we may not be aware of, has led some authors (e.g., Adam and Groves, 2011, 2007) to argue for making moral choices guided not by a desire to see a particular end result from our action, but from a sense of care and responsibility towards the inhabitants of the future. The rights of future generations are another way in which the future acts as a force within the present.

Conclusion

In this paper I have presented a summary of the notion of ‘futures literacy’ and made two related claims: that the events described above are capable of developing futures literacy amongst participants, and that this kind of practical futures work can benefit from engaging with theoretical perspectives on anticipation and the future. In supporting the first claim I analysed data generated through surveys completed by event participants, identifying responses that indicated a new awareness of their anticipatory assumptions and changes in the way they represented the future. In addressing the second claim I suggested that participants’ responses gave rise to several new questions that moved beyond the initial concerns with making anticipatory assumptions apparent or building futures capacity, and which required a deeper understanding of the ideas behind the notion of ‘futures literacy’ to make them susceptible to analysis.

Regarding the first claim, while the data available is not sufficient to offer a definitive answer, still the material presented here demonstrates that the events did, for some participants, help to reveal assumptions regarding the future that were previously tacit, and provided a venue for participants to engage with notions of complexity, uncertainty

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and possibility that enlarged their sense of the future. There is, on this evidence, a clear illustration of the potential of these events to build futures literacy and develop peoples' capacity to make use of the future in their decision-making processes. There are, additionally, hints that this process might be aided through a greater understanding of the social contexts and communities of practice in which individuals' anticipatory assumptions arise and the epistemic assumptions they bring with them into the learning process, though more systematic research is needed to support this notion.

Regarding the second claim, that there is value in this kind of practical futures work engaging with theory, we are not attempting to demonstrate that futures work requires theory, or that a theoretical perspective is necessary for futures practice to be meaningful. As Poli (2013) points out, there are many varieties of futures work, and some have more in common with practices such as medicine or architecture which do not necessarily require a theoretical base in order to make important contributions to society. What can be claimed here is that engaging with a theoretical perspective on anticipation and the future has in this case had some additional benefit. It has enriched our understanding of the thought processes set in motion by the LSE events, by equipping us with frameworks for distinguishing different ways of knowing the future, and ontological tools for resolving what seem to be inconsistent or contradictory representations of the future (in particular the notions of categories of the future, levels of reality and the 'thick present'). Engaging with theory also helps develop more compelling arguments for developing the capacity to make use of the future: it offers an account of why some forms of knowing the future fail to support decision-making, by illustrating the contexts in which linear or probabilistic thinking is not appropriate, making a case for developing other ways of knowing the future, and it reveals something of the nature of our moral obligation towards the future, making the limits of our agency better known to us and illustrating the need to give proper consideration to the future, rather than leaving it unexamined.

Perhaps most importantly, paying attention to the theoretical grounding of futures practices such as the LSE events makes the practice itself more future-proof. A theory of anticipation provides a language to connect futures work like this with other future-facing endeavours, and makes it possible to relate the outcomes or lessons from individual events to other relevant work around the world, in history and in the future. Without this, the impact of such events would be more likely to remain local, limited to those attending. Supporting futures practice with theory makes it possible for the work itself to remain open to different future uses and possibilities, extending the range of its possible impact and influence.

References

- Adam, B., and Groves, C. (2011). Futures Tended: Care and Future-Oriented Responsibility. *Bulletin of Science, Technology & Society* 31(1), 17–27.
doi: <http://dx.doi.org/10.1177/0270467610391237>
- Adam, B., and Groves, C. (2007). *Future matters: Action, knowledge, ethics*. Leiden, Netherlands: Brill
- Bhaskar, R. (1998). *The Possibility of Naturalism: A Philosophical Critique of the Contemporary Human Sciences*. UK, London: Routledge.

Scoping Global/Local Anticipatory Capacities

- Fukukura, J., Helzer, E., and Ferguson, M. (2013). Prospection by Any Other Name? A Response to Seligman et al. (2013). *Perspectives on Psychological Science* 8(2), 146–150. doi: <http://dx.doi.org/10.1177/1745691612474320>
- Gilbert, D. and Wilson, T. (2007). Prospection: Experiencing the Future. *Science*, 317, 1351-1354. doi: <http://dx.doi.org/10.1126/science.1144161>
- Krawczyk, E. and Slaughter, R. (2010). New generations of futures methods. *Futures* 42(1), 75-82. doi: <http://dx.doi.org/10.1016/j.futures.2009.08.011>.
- Lave, J. and Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*. Cambridge: CUP
- Miller, R. (2007). Futures literacy: A hybrid strategic scenario method. *Futures* 39(4), 341-362. doi: <http://dx.doi.org/10.1016/j.futures.2006.12.001>.
- Miller, R., Poli, R., and Rossel, P. (2013). *The Discipline of Anticipation: Exploring Key Issues. Working Paper 1, Local/Global Capabilities Scoping Project*, Paris:UNESCO/Rockefeller.
- Poli, R. (2014). Anticipation. Using the Future for Understanding the Present. Opening lecture to the conference “Anticipation: Complexity and The Future”, Stellenbosch, South Africa, 18 March 2014.
- Poli, R. (2015). *Relational Science, Complexity and Anticipation. Introduction to Robert Rosen, Selected Papers on Social Systems*, De Gruyter 2015.
- Poli, R. (2010). The many aspects of anticipation. *Foresight*, 12(3), 7–17
- Poli, R. (2009). The complexity of anticipation. *Balkan Journal of Philosophy*, 1(1), 19-29.
- Quoidbach, J., Gilbert, D., and Wilson, T. (2013). The End of History Illusion. *Science*, 339, 96-98. doi: <http://dx.doi.org/10.1126/science.1229294>
- Seligman, M., Railton, P., Baumeister, R., and Sripada, C. (2013). Navigating Into the Future or Driven by the Past. *Perspectives on Psychological Science*, 8(2), 119-141. doi: <http://dx.doi.org/10.1177/1745691612474317>
- Sen, Amartya, (2011), *Development as Freedom*, Random House
- Slaughter, R. (2001). Knowledge creation, futures methodologies and the integral agenda. *Foresight* 3(5), 407 - 418. doi: <http://dx.doi.org/10.1108/14636680110697129>
- Star, S., and Griesemer, J. (1989). Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39. *Social Studies of Science* 19 (3), 387–420. doi: <http://dx.doi.org/10.1177/030631289019003001>.

6.

Assessment of the project “Networking to improve global/local anticipatory capacities”

Dr. Pierre Rossel¹⁹

Summary

At the beginning of 2013 the UNESCO Foresight Section (Bureau of Strategic Planning), under the supervision of Dr. Riel Miller, designed and launched an ambitious capacity-building and action-research project to scope global and local anticipatory capacities. The project was implemented as planned and produced the expected results. The range of events and experiments conducted by the project are full of initial lessons regarding the theory and practice of anticipation. The pilot processes show consistent and powerful impacts, providing a strong rationale for the continued development and diffusion of the Discipline of Anticipation. The project offers clear directions for further research and provides the foundations for developing sustainable communities of practice capable of changing the way the future is used around the world. UNESCO is in a strong position to play a leadership role in this process.

1. Project Content and Purpose

In the context of reinforcing UNESCO Foresight’s global leadership, outreach and as a capacity building process involving local communities around the world, this project has been genuinely creative and collaborative. Working closely with the Steering Committee members and a whole range of foresight experts as well as local champions the project advanced along a dual-track using experimental and proof of concept methods.

The two tracks were:

- A Futures literacy training format, based upon the concept developed by Riel Miller and submitted during the first semester 2013 to an international body of futures studies experts for validation and improvement, to be further implemented in concrete test workshops.
- An action research endeavor consisting in, 1) raising the futures literacy capacity of specific local communities of practice (CoPs, see definition in section 2.3) and 2) further harnessing of the knowledge outcomes of several and gradually networked CoP futures literacy exercises around the world ; this second level objective will be called hereafter « local scoping exercise » or LSE.

¹⁹ EPFL, Lausanne, Switzerland, November 30th, 2013

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In the next section, we will detail each one of these components, their specificities and how they were implemented with the aim of developing a robust and an easily replicable format, and finally suggest a first evaluation on the status (end-of-2013) of their effectiveness for the intended goal, as well as how they configure a standard-event format defined as « Futures Literacy UKnow-lab » (presented as « a mixture of focus group and action research methodologies »).

An important aspect of this project is that it fits within in an on-going effort by a group of academics, researchers and professional futurists, in close collaboration with Dr. Riel Miller, to elaborating and substantiating the relevance of an ‘anticipatory systems’ perspective for understanding how the future enters into natural and biological systems²⁰. The term adopted for this approach has been “The Discipline of Anticipation”. The ongoing research efforts into the emerging theory and practice of the Discipline of Anticipation served as basis for many of the exchanges and reflections throughout the project.

However, the central feature of this project and its dual track is its potential to generate an explicit recognition of a set of real-life futures literacy capacities related to understanding and deploying the Discipline of Anticipation. Such an endeavor is central because it expresses key values of UNESCO as articulated by its constitution and its manifold programmes that aim to enhance: education, science, culture, global experience sharing, international valuation of local knowledge, that connects to key human needs including the ones that encourage the open minds and skills needed to take novel approaches to sustainable futures, and ethical attention to cultural diversity and human rights.

The goal of this evaluation is to provide a status report on where the experiment stands at the end of 2013, and to appraise its performance in both formal and substantive terms..

First evaluating comment : the project’s goals are noble and appropriate to the UNESCO context, and at the outset sufficient resources appear to have been allocated in order to initiate the process. However, as always, there were uncertainties regarding the sustainability of such an ambitious project beyond the initial steps laid out in the project documents.

Precautionary comment : I was involved in the process in the Paris meeting, in the Bellagio event and in the subsequent LSE workshop of Oslo in October. I did not participate in the Brazilian event, which I got to know only through texts and videos produced by participants, nor in the other LSE-like workshops such as the Baku event that took place shortly after the Bellagio workshop. However, I have been sufficiently close to the process, informed by other participants and briefed by Dr. Miller, to be able to cope with possible blind spots, interferences or biases that this discontinuous exposure might engender and typical of any participant observation activity, to take it into account and adjust. My observation role of course called on me to maintain a certain distance during all the events in which I participated.

²⁰ “Future Studies and Weak Signals: A Critical Survey”, Foreword and Editor of the Special Issue with Ulrik Jorgensen and Pierre Rossel, **Futures**, Vol. 44, Issue 3, April, 2012, Pp. 195-198

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The process

2.1 The preparatory phase

The preparatory phase was focused on a workshop defined as « Steering Committee Meeting » (from here on SCM) held in Paris on February 13 and 14, 2013, and gathering some 20 international experts involved in forms of activities either comprising or getting close to what was intended. The full programme and list of attendees of the SCM can be found in annex. The SCM meeting was further enhanced by an expert meeting held in Paris on April 18-19, 2013.

The purpose of the SCM was :

- 1) To have futures studies experts confronting the original ideas brought up by Dr. Riel Miller for the two key facets of the experiment (futures literacy capacity building and CoP novelty exploration) and, as an intersection to both aspects, in particular, the starting concept of exploring how people « use the future » for the present (see further, for an explanation of that idea).
- 2) To establish as much as possible the SCM attendees as a follow-up group for the unfolding of the whole process in 2013 (hence the labelling « Steering committee meeting »), with tasks and commitments given to several volunteering participants from then on.
- 3) To discuss in an interdisciplinary and multi-cultural light some of the proposal's critical issues and concepts such as the umbrella concept of « Discipline of Anticipation », or the notion of « Futures literacy », as well as the well-known and long-established concept of “Communities of practice”. The purpose of this examination was to ensure that the whole process was on firm ground from an academic perspective and well anchored in the domain of futures studies at large.
- 4) To assess and advise on the soundness of the implementation steps and sequencing of the whole scoping exercise process.
- 5) To address ambiguities: as the purpose of LSE is to raise the level of futures literacy of local communities of practice, SCM members had to discuss and clarify the difference between lay and professional futurists.
- 6) To prepare the full test event planned to be held in Bellagio in May 2013.

Presentations and group discussions provided ample opportunity to address these goals and achieve sufficient clarity and substantive agreement to go ahead. During the course of the SCM and through follow-up discussion the participants helped to shape and advance the agenda and its content as launched in Paris. A number of participants agreed to prepare documents for the Bellagio event, in particular on such key notions as Communities of Practice (which has already a huge supportive yet sometimes dispersed and non homogeneous literature) and the Discipline of Anticipation, which was to be defined and detailed in the following weeks.

One important aspect the SCM dealt with was to discuss and finally agree on the importance of seeking to “scope” or detect the use of anticipatory systems by local « communities of practice » through an engagement approach – testing hypotheses and collecting data through on-the-ground action research. The consensus of the SCM regarding the terms being used and the objectives/methods being proposed was based

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partly on existing literature and partly on the multi-disciplinary experience of the attendees

Evaluating comment:

Although a bit centrifugal, the dynamic born in this first global encounter produced decisive motivation on the part of a dozen participants to continue supporting and contributing to the project, with clear commitment to making expert inputs and editorial efforts. The proposals put forward by Riel Miller as Head of Foresight at UNESCO were persuasive and the stage was set for the next step, the Bellagio encounter planned for May 2013.

2.2 The full test with a college of experts in Bellagio, at the Rockefeller Foundation facilities

An international gathering of 21 international futures studies experts, along with the UNESCO Head of Foresight, Riel Miller (see full programme and list of attendees in annex), took place in Bellagio, May 20-24, 2013, in The Rockefeller Foundation facilities.

This even had a range of objectives:

- Test the Local Scoping Exercise instrument by simulating such an event with Bellagio event participants, allowing the assembled experts to rehearse, refine and alter the process through high-level feed-back.
- Provide an opportunity for in depth discussion of the working hypothesis regarding the Discipline of Anticipation and in particular the three categories for “using the future”, i.e., optimizing, contingency planning and novelty discovery.
- Explore the practical application of specific methods for engaging participants in an LSE such as CLA methodology (CLA = causal layered analysis), a particular approach developed by Sohail Inayatullah.
- Work collaboratively to develop concrete proposals for local champions who might implement LSEs in places like Brazil, Philippines, Sierra Leone, etc..
- Build upon the very international nature of the participants to pre-examine how LSEs, as a generic foresight processes, could be adapted to fit diverse local contexts in ways that generate the desired research results on CoP and DoA.

The design of the Bellagio meeting enabled enthusiastic coverage of all planned items, with commitments from several of the participants to pursue and develop critical tools for bridging the Bellagio workshop’s results and the creation of a robust and generic LSE environment, and further CoP-based action-research build-up. This latter part involved in particular the discussions, definition and writing of essential research questions and, also of a tentative research agenda, with a generic questionnaire to get LSE-CoP labs to eventually deliver field-work level information that can be harnessed and, LSE by LSE, turned into a truly international networked learning process. Subsequently, as the process unfolded, documents were elaborated outlining both generic aspects of the LSE workshops and the specific, customized to context designs. All of this work benefitted

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from the well-prepared documents used to spark discussion at Bellagio and the work done at Bellagio. On the basis of this work an operational outline of a LSE can be stated as follows:

A Local Scoping Exercise (LSE) is a coherent process aimed at generating knowledge as it takes place over a one and a half to two day period, in a specific place, involving a specific group of people –a local CoP. LSE's are what might be called “knowledge laboratories” or Knowlabs. Such exercises use the future to produce knowledge in four successive categories: First it generates new insights about a specific issue of local concern like the future of young people in Sierra Leone or the way universities in Brazil might use the future in the future. Second it creates research quality evidence about the participant's particular way of using of the future – specifically the networks they belong to and the methods they use. Third, the participants in the LSE acquire new capabilities regarding ways of using the future themselves; they start becoming futures literate. And fourth, like all designed activities, there is knowledge produced as an outcome inasmuch as there is a need to assess if the design, in this case the specific construction of the Knowlab, has achieved its objectives. In this way the LSE provides evidence regarding different ways of designing Knowlabs for different contexts and goals

The phrase “using the future” has particular meaning in the context of the Scoping project and needs to be made explicit for this report. In this context the phrase “using the future” draws attention to both the many different methods for elaborating representations of the future and the many different goals that such representations can be applied to .

An important point worth emphasizing is that the maturity that this concept achieved through the work of the very international constituency present for the « Bellagio week » really empowered the overall scoping process and served as the intellectual foundation and source of personal motivation for moving ahead with concrete plans for LSEs around the world. We will come back to this promising start in light of what actually transpired over the subsequent implementation period. Did the on-the-ground LSE experiments match concrete local possibilities, legitimacy issues and financial prospects?

As a support for local organizers of such LSE exercises and for UNESCO staff to monitor their level or preparation and progress towards full LSE readiness, the Bellagio meeting started the ball-rolling for several useful follow-up activities, including involvement by Lydia Garrido and Richard Sandford (see accounts in the full report).

I also personally took the opportunity to ask attendees what they had got from that week's collective work and the result was surprisingly diverse and enthusiastic.

Results of the internal enquiry:

- Several participants stressed the quality of the organization and structure of the workshop, citing the emphasis on ice-breaking exercises that helped create group awareness and clarity of shared mind-set/targets such as “ability of reframing, embracing novelty and uncertainty in the present while the future unfolds”, to quote one participant. Others appreciated the opportunity they got to exchange ideas with other futurists and in particular for having the time, which seemed not

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- to be too frequent according to what they said, to reflect on fundamental principles of the discipline.
- One interesting set of distinctions remarked upon by participants had to do with the differences between CoPs that are dedicated to act and grow in specific territories as general collective change agents, and CoPs that are issue-relevant and have narrow, but nevertheless highly noble and value-based objectives. An example of such a dedicated CoP was a local association fighting child-abuse in the Philippines.
 - Another fruitful distinction flagged by participants was between already established CoPs and ones that might take shape as foresight exercises are put into practice. Participants saw the creation of new CoPs arising out of LSEs as particularly relevant to places like North Africa, and more specifically, turbulence-stricken Tunisia and Egypt.
 - Another issue emerging from a post-Bellagio snapshot enquiry was the uncertainty linked to the kind of data that could be collected from LSE exercise fieldwork. Participants noted that part of the answer would be produced by the questionnaires to be used before and/or after the running of an LSE. But until such data emerges it will be difficult to know about the comparability of data generated in very diverse local environments. This worry is to be correlated with another one, more optimistic, asking for a broad connection and wide participatory engagement within and amongst CoPs, increasing the value of diversity among those targeted actors.
 - Some “cautionary” points are also worth mentioning: a few participants expressed concern about the future of the LSE and Knowlabs approach. They wondered about the fate of this research in the medium term, unsure how to ensure a sustained effort. Some frustration was also felt about unfinished discussions about new and challenging topics. One participant suggested that periodic workshops should be organised as a means to reinforce the innovation and experimentation in the medium term.

Evaluating comment :

Overall there are no real criticisms of the Bellagio process. On the contrary, the more than 20 participants, with different degrees of engagement with foresight and commitment to the process, signaled their clear commitment to continue being part of the project. Everyone, within the constraints of their other varied commitments, signed on to the intellectual ambitions of the project. And fully half of the participants agreed to make tangible investments in follow-up, ranging from organizing a series of LSEs in Brazil and other places like the Philippines and Sierra Leone, to drafting reports, editing documents or participating in further events. The impression given by such consensual perception and appreciation, all the more impressive given the truly international character of the group, is that the Bellagio event succeeded in giving tangible form to the project's ambitions. Coming out of Bellagio there was significant momentum for building an international community of futurists; opening up new avenues, concepts and tools; stimulating local communities around the world; targeting both a novelty-oriented approach to the future and incorporating a networking experience for all the communities eventually involved; and lastly, in more specialized communities, accessing novel representations of the future.

2.3 Key concepts and ideas involved in the process

Discipline of Anticipation (DoA) : Three people (this author included) worked together to examine this concept in greater depth and from an academic perspective. The draft paper presented at Bellagio constituted one of the main anchoring references for the event and the process as a whole (NB this document also served as an input to the FuMee VI scientific workshop held in EPFL Lausanne, 9-10 of September, several of the Bellagio workshop attendees were also present (www.fumee.org)).

The DoA discussion paper covers such issues as the very general nature of anticipatory processes, systems and capabilities, the gap in epistemic consistency prevailing in futures studies, the way anticipatory methodologies might be turned into a disciplinary build-up, characteristics and key problems to cope with in such an endeavor, etc. (see text in annex).

Futures Literacy (FL) appears to be a specific collective phenomenon, arising in given local groups of individuals (CoP or not), when they seek a qualitative and creativity-releasing gain in their capacity to think about the future. As such processes unfold there is evidence that it is helpful to distinguish the three different categories for using the future: optimization, contingency planning and novelty discovery.

Knowlab: The LSE ‘collective intelligence knowledge creation’ process, generically labeled a Futures Literacy Knowledge Laboratory (FL Knowlab), has gradually been formalized as a learning process in the most general sense. As such all of the LSEs, as FL Knowlabs, moves through the successive working phases of a learning process as follows (a quote from one of many texts delivered throughout the process involving the presentation of that particular concept):

“Phase 1 objectives: move tacit ideas about the future to explicit; develop a shared understanding of what the group thinks is likely (probable) to happen in the future; reveal the values that underpin people’s hopes for the future; immerse participants in time – provide a sensation/understanding of change as a temporal phenomenon; help clarify the subject that is of interest – the group is really interested in the future of X not Y; investigate participants’ perceptions of the communities they are part of that use the future for decision making; and last but not least participants come to the realization, by engaging in a collaborative knowledge creation process (many different experiential procedures can be used), that they have not spent much time or effort trying to discern different types of future nor being imaginative about the futures they invent. This last outcome is an essential part of a learning process – the realization of not knowing. Sets the stage for the next learning phase.

Phase 2 objectives: develop a clear awareness of the role of models in determining what we describe (systems and system boundaries); clarify the conventional models that are currently being used to describe the future by developing non-conventional or systemically discontinuous models that enable the description of a such non-contiguous future; deepen participants’ understanding of the extent to which both the model used to describe the

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future and the description of the future generated by the model (endogenous) influence the identification of what matters and what is doable in the present; render in greater detail the systemic boundaries that at a particular point in time define choices intended to address systemic birth, death and adaptation (resilience); and enable participants to bring their specific in-depth knowledge to a common framework for describing a moment in the future.

Phase 3 objectives: revisit Phase 1 assumptions about the future; establish a set of new questions about the present; detail strategic alternatives based on models that are systemically distinct and sufficiently specified to generate variables and metrics; follow-through on implications for current decisions of different strategic options; investigate the participants perceptions of the DoA – the tools they think have been used (by themselves or others) to think about the future; and consolidate the lessons of the FL Workshop with respect to learning-by-doing, using the future, and action research as a method for using collective intelligence to produce new knowledge.”

Community of Practice (CoP): The concept was generated in the 1980s in the context of the Institute for Research on Learning at Xerox Park in Palo Alto. CoP as a concept has been popularized by such authors as Lave and Wenger, and reaches now, thirty years later, a level of 30000 references on Google scholar, showing the importance this concept has taken in the contemporary knowledge landscape. Originally, a CoP was a social group of people recognizing themselves as members of a group characterized by what they were doing and the capacity to distinguish themselves from other individuals or groups who were not members of such a community. As time passed, the term expanded to encompass more heterogeneous communities. This expansion posed certain problems, such how to address boundary objects, namely processes, concepts or issues which could be interpreted differently by different members of the community while still sustaining sufficient cohesion for such groups to be considered as CoPs. However, what the community is doing and how membership is defined, maintained or periodically re-negotiated are key characteristics of CoPs in all cases. What is important to flag is that CoPs are de facto knowledge creation spaces, « knowledge » comprising here, in a complementary way, both conceptual and action-oriented facets. In a local context these defining attributes of CoP emphasize the qualities that LSE are supposed to work with and enrich.

LSE’s bring all four conceptual perspectives (DoA, FL, Knowlab, and CoP) into play during the same event., This action research orientation for collecting data is operationalized through the “FL Knowlab” framework as follows (taken from one of the many implementations of an LSE):

“The structure of the FL Know-lab process:

- i) elicits and renders explicit anticipatory assumptions, including the probabilistic expectations and aspirational values participants use to imagine the future;
- ii) raises awareness and encourages understanding of diverse perspectives within the group, building shared discourse and purpose;

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- iii) engages participants in collective reflection, spurring creativity and invention regarding the difficult task of reframing the future, eliciting new ways of making sense of the emergent present;
- iv) suggests new questions and identifies systemically distinctive (strategically different) choices for consideration by decision-makers in the present; and
- v) builds participants capacity to use the future, introducing and making practical the idea of Futures Literacy.

The goal of the action research side of the project the FL Know-lab aims at enabling the acquisition of information regarding four key points.

- 1) Conducting an FL Know-lab demonstrates that the future is an effective way to discover (identify, invent, make sense of) emergence and systemic novelty.
- 2) Participants engaged in the FL Know-lab reveal (even if this information is not explicit or known as such to the participants) that they belong to specific groups (a range of communities-of-practice) that use the future for decision-making.
- 3) The FL Know-lab invites participants to share and/or discover the methods they have been using when they use the future for decision-making (thereby identifying the elements of the DoA that they know/use).
- 4) Fourth, having revealed the nature of the groups that use the future and the methods they deploy, the strategic phase of the FL Know-lab can engage participants in thinking about how to improve the way they use the future, including the network/community conditions (CoP), the command and sophistication of the practices (DoA), and the relationship between networks and practices.”

Evaluating comment 1 :

The whole process is highly ambitious, but the Bellagio event showed that there was an expert group ready to back-up the approach and contribute directly to the elaboration of several elements needed to succeed : understanding CoPs, identifying different DoA, conducting further research as well as collecting information, analyzing processes, refining questionnaire design, etc. Looking at ambition and the process as designed from a glass half-full, half-empty perspective does raise the question of how to continue and extend this work beyond the mandate of this specific project.

Part of the answer may reside in plans to seek more opportunities to run FL Knowlabs in the future. Such activities will depend on the ability to bring together a range of players, starting with “local champions” able to initiate and implement the FL Knowlab in close collaboration with international networks. Continuing this kind of action research seems fairly practical because many local champions are already engaged in collective intelligence knowledge creation processes that use the future to address the need to understand specific contexts. Here again, let’s quote the documents in which this notion appears:

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“Local champion(s): The local champion is an organization or group that wants to sponsor a LSE in their community around issues of interest to them. We are open to a very wide range of different local champions, from universities and government departments to local NGOs, schools or enterprises. UNESCO Foresight will work closely with the local champions to develop a training schedule, work through a local design for the Know-lab, taking into account local culture and expectations, training local facilitators, developing a set of target groups for participation in the LSE, setting up links to other activities such as an academic event around the DoA or a special seminar on foresight for local officials. Local champions will be expected to take responsibility for local logistics, in certain cases with special funding from local and/or global sponsors, and to help with the recruitment of local facilitators, observers and evaluators.”

The key point here is that local champions are indispensable to avoid parachuting LSE procedures and style from “above” and also to prepare and facilitate further enlistment and uptake capacities that are meaningful to the local community. This approach may also make it easier to find the necessary resources since such activities being undertaken in the course of local problem definition and solving.

Evaluating comment 2 :

The project “Networking to Improve Global/Local Anticipatory Capacities – A Scoping Exercise” is of course not the only example of innovative ways of working with the future. Other projects in the Future Studies community address innovative approaches to foresight as a reflexive notion, a reference concept or a pretext. From this perspective this particular project can be inscribed in a broader movement, indicative of a renewal of futures studies at large. This renewal needs to be seen as more than an effort to advance an applied science, where all the tools and concepts are already established. On the contrary this is field in need of both clarification and diversification. However, in this turbulent context, the project has the merit of connecting both conceptual reflection and praxis, moreover with the open-ended learning potential linked with local communities of practice around the world. This merit has been supported by financial means and human resources (UNESCO and The Rockefeller Foundation), sufficient to give it its initial impulse, without having to sacrifice one or another aspect of the full-fledge programme thus defined. This side of the project has already been affirmed. Less self-evident is the sustainability of the research and diffusion efforts related to all of the key concepts. There may be some vulnerability if the methods and results do not trigger enough interest, energy and financing. So far, however, the robustness of the project design seems to be working to ensure that there are many key players committed to moving ahead with the effort to develop and deploy the Discipline of Anticipation, Futures Literacy and the related knowledge laboratories and communities of practice.

2.4 Pilot and Full-fledged CoP-oriented scoping exercises in 2013 after Bellagio

- A half-day pilot of some key concepts was conducted in Baku, June 1st, immediately after the Bellagio workshop, under the leadership of Riel Miller, in collaboration with the Millenium Project;

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- A two day LSE was conducted in Brasilia, 11-12 July 2013 (with CGEE)
- A one day LSE was conducted in San Paolo, July 15th, 2013 (with CGEE, UNESCO Foresight and Nucleo de Estudios do Futuro – PUC SP)
- A partial piloting of key concepts was introduced to a process in Chicago, July 19, linked with The Annual Association of Professional Futurists Conference
- A partial LSE was simulated in Oslo, October 21-22, 2013, with The Research Council of Norway and the participation of 7 Bellagio workshop attendees, invited to Oslo for a research discussion taking place after the LSE workshop, as “Steering Committee” participants and meant to produce a first post –Bellagio evaluation (see further comment on the Oslo workshop in section 2.5)
- A one and half day FL Knowlab sponsored by the UNDP and conducted in Bogota, November 25-26, with ORMET- Red de Observatorios Regionales de Mercado de Trabajo, funded by UNDP.
- A one and a half day LSE in Rio de Janeiro on the future of science, November 28-29 (with CGEE).

Preliminary remark: I have less information for this part of the evaluation since I was not part of most of these events. In my assessment I have had to rely on documents, videos, reporting, messages produced by some of the attendees, etc. Clearly the Brazilian events attracted considerable attention and set high expectations, dealing with such key issues as the way a local community of practice can use the future to re-envisage its own point-of-view on innovation, as in Brasilia July 11-12, or targeting a more focused set of options and actions for how universities address the future, as in the San Paolo LSE (“Changing the way universities use the future”). This latter exercise aimed to reconsider the objectives of higher education. The goal was to imagine new ways of putting knowledge to work, and through it, opening up new avenues to wealth creation, and alongside, producing reflections about the governance schemes that underpin such objectives (defining altogether the building blocks of a learning intensive society). The records show that both of these LSE’s generated abundant discussion and intense participant involvement. A number of sources confirm the range of communities of practice engaged in thinking about the future and deploying a range of different anticipatory systems as part of their practice.

Part of the goal for these initial pilot LSEs was to begin elaborating process models that could be used by subsequent local champions and facilitators²¹. Thanks to this Brazilian leg of the LSE-FL-Knowlab journey, a range of documents and reports were produced sketching various aspects of the process, including technical details, clues and tips based on lessons learned from previous FL processes; such results lay the foundations for

²¹ As of June 2014 here is the list of FL Knowlabs conducted since this evaluation was completed in November 2013: Paris, January 2014 – future of youth ; Sierra Leone, January 2014 – future of youth; Paris, March 2014 – future of cities; Johannesburg, May 2014 – future of African nations; Philippines, May 2014 – future of cities; Myanmar, May 2014 – future of education; Canada, June 2014 – future of innovation in the public sector.

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developing a practical handbook to provide guidance for designing and implementing FL Knowlabs in collaboration with UNESCO and local champions.

2.5 An extra scoping exercise in October 2013 in Oslo

An additional event, funded largely by Innovation Norway and held in Oslo in October 2013, offers considerable insight into the design challenges of this Scoping project and the resonance of its principal objectives with key constituencies. This LSE, entitled: “Innovation as Learning, Knowing as Science: Imagining a Universal Innovation Society in 2040”, brought together researchers and innovators from around the world. The focus of the workshop was innovation, what it means in Norway today and in the future. The goal was to understand how reframing innovation by imagining distinctive and discontinuous futures could help to see novel aspects of innovation as it emerges in the present. A deliberately non-predictive, non-normative model of a “Universal innovation society”, was used to get beyond extrapolative images of innovation. The process forced everyone to work at imagining, inventing new ways of defining the nature, role and organization of innovation. Specifically, in the Norwegian context, it became clear that the challenge was to think of Norway beyond today’s dominant oil and fishing industries. Participants came to understand how the attributes and positioning of innovation can change, but the creativity needed to invent new images of the future remained a serious challenge. Furthermore, one of the striking aspects of thinking about the future of innovation in a Norwegian context is that the need for a change is not motivated by present difficulties as by a desire for brighter tomorrows.

The Oslo LSE was followed directly by a meeting of a research sub-committee of the project Steering Committee and included several participants from the prior Paris and Bellagio events as well as a number of futurists from around the world. The aim of this two day session was to evaluate, improve, clarify and promote next steps of the overall Scoping project and the design/implementation of FL Knowlabs.. The in-depth deliberations of this research committee helped to clarify numerous issues and also raised new questions. One of the questions related to the resources available to follow-through on the findings of the Scoping project. There was clear evidence that many local champions were keen to undertake local experiments, running a FL Knowlab, but it was not clear funding would be available to ensure the involvement of other researchers and futurists from around the world, as was the case so far in at least Bellagio, Oslo, and Brazil.

3. Overall assessment

The ultimate intent of this project, to change global discourse and practices regarding the use of anticipatory systems, is extremely ambitious. In this regard one of the first observations is that given the constraints of time and resources this particular project was not in a position to reach this bigger objective. However within the bounds of its budget and timeframe this project was in a position to test the proposition that the time is ripe to attempt to change global discourse and practices regarding the use of anticipatory systems. This task, in my view, has been solidly addressed by this project and the response is in the affirmative – the time has indeed come to move ambitiously forward with the development of the theory and practice of anticipation.

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Given this general verdict on the need to advance the theory and practice of ‘using the future’, there remains the more detailed questions of developing the shared language necessary for this type of endeavor to produce, accumulate and exchange knowledge. Here too the project was very ambitious, attempting to push forward on a number of fronts with the codification of a new or ‘disciplinary’ discourse. Once again the basic conclusion is that the project did succeed in demonstrating that there is an emergent set of terms and processes that make sense to people in many different parts of the world, people who belong to many different communities of practice. And in this sense the project did demonstrate that there is a global community of practice, linked to many local and distinctive communities, that is emerging around the Discipline of Anticipation. However there is still a long way to go to fully leverage the resonance of the vocabulary and processes deployed in this project to help foster the creation of a sustainable body of theory and practice for ‘using the future’.