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NIFU
Nordic Institute for Studies in Innovation, Research and Education

The Research Council of Norway

The Future of Collective Action: Innovation and Wealth Creation in Norway in 2040

Oslo, The Research Council of Norway, May 29-30, 2018

The Norwegian Ministry of Local Government and Modernisation is planning a government white paper on innovation in and for the public sector. Institutions like The Research Council of Norway, Innovation Norway, KS, DogA and others have started processes aimed at developing new ideas, policies and practices that can help the public sector in Norway handle urgent social, economic, political and environmental changes and challenges, and prepare for the future and in an active and knowledgeable manner.

Among challenges and drives often mentioned we find adaptations to a post-oil economy, climate change, demography, future funding of social services, digitization and technological change, political polarization and instability and more.

Although the main focus in these processes have been public sector innovation and the possibilities and challenges facing the state, the regions and the municipalities, societal needs and the welfare of the citizens will depend on innovation in all sectors, as well as on collaboration between actors from all parts of society.

In this Futures Literacy Laboratory (FLL) you will be asked to think about collective action in Norway in 2040. You will explore questions like, how do the people living in Norway in 2040 decide to do things together, such as set laws, run public programs, establish norms? Note the question is in the present tense, as if you were already living in 2040, already experiencing how innovation and wealth-creation (economic activity) functions in Norway in 2040. The goal of this Lab is to push the frontiers of our thinking, to help us to invent new frameworks for sensing and making-sense of the complex emergent present, including genuine innovation (novelty, unknowable in advance). We will define the "box" and, on that basis, what is "outside the box" as one way of thinking about what is to be done – not just by "the government" to or for "the society", but throughout society, with all its richness, diversity and emergent novelty.

To reach this goal this FLL brings together a group of people to engage in a collective intelligence knowledge creation process. The process has been carefully designed to enable participants to discover and specify, by moving from tacit to explicit and from conventional to newly invented, the anticipatory assumptions and related narratives they use to perceive and act in the present. This is the FLL methodology that combines the latest thinking about using collective intelligence to generate knowledge with recent developments in our understanding of anticipatory systems – or how to 'use-the-future'. This custom designed event will allow participants to become more Futures Literate by experiencing different ways of 'using-the-future' to understand the present.

A document presenting highlights from the discussions will be sent to the ministry and published in *Forskningspolitikk*. We follow the Chatham rules, meaning that the participants are free to use the information received, but neither the identity nor the affiliation of the participants may be revealed. You are invited as an engaged citizen and an experienced expert in your field, not as a representative of your employer.

Agenda

Day 1 – May 29, 2018

9:00 Session 1: Introductions and overview

- Introductions – round table 1 minute max per person
- Presentation: Purpose of the Futures Literacy Lab
- Orientation to the workshop – learning-by-doing approach, using collective intelligence knowledge creation processes that 'use-the-future', designed using the UNESCO Futures Literacy Framework (Miller, 2018).

9:30 Session 2: Phase 1 – Expectations, values and defining the topic

Working in breakout groups:

Q1: What are your predictions regarding the nature and functioning of 'collective action' in Norway in 2040? Focus on describing your best bet, a prediction that depicts the situation in the future. Please describe it as a 'still-life' or snapshot, do not worry about the path taken to 'get there'.

- Use Layered Analysis, a tool you will be provided by facilitators, to dig deeper into what you have imagined together.

Q2: What are the attributes of your desired or hoped for systems of 'collective action' in Norway in 2040? This is not a prediction and does not need to be based on probability, use your hopes to once again describe a 'snapshot'.

- Use Layered Analysis, a tool you will be provided by facilitators, to dig deeper into what you have imagined together.

11:00 Groups report back

12.00 Lunch

13.00 Session 3: Phase 2 – Reframing and Rigorous Imagining

Presentation of tools for imagining the future of 'collective action' on the basis of a radically different organizational context – economic, social, governance, etc. (The Learning Intensive Society – Murmuration – Model).

13.30 Group work on Phase 2 – Reframing and rigorous imagining exercise
Use the Learning Intensive Society as a model for describing 'collective action' in Norway in 2040. Use the possibility space dimensions (below) to assist with the description.

- Use Layered Analysis and Thing from the Future, tools that will be provided by facilitators, to dig deeper into what you have imagined together.

15:00 Groups report back
Groups describe 'collective action' in Norway in 2040 in the context of a Learning Intensive Society model.

16:00 Discussion and Instructions for Day 2

16:30 End of day

Day 2 – May 30, 2018

9:00 Session 4: Phase 3 – Asking New Questions

Group work on Phase 3: Compare and contrast the descriptions of 'collective action' elaborated in Phases 1 and 2. How do changes in anticipatory assumptions alter the perceptions of 'collective action' in Norway today? Describe specific policy initiatives in the present that take into account changes in the conditions of change and systemic emergence detected in the present. Groups report back on Phase 3 discussions and policy implications.

10:00 Groups report back.

10.45 Session 5: Presentation and Discussion of Futures Literacy and the Discipline of Anticipation

11:15 Session 6: Wrap-up and Feedback

12:00 Close of workshop

BACKGROUND

1. General Introduction to Anticipatory Systems

One of the fundamental questions facing humanity is what can be done today to create a better, more sustainable, more peaceful, and more equitable world in the future? We want to act now in order to influence the future. But before we act we usually want to know certain things. We want to know the nature of our goals and we want to know what are the most effective ways to get to our goals. But in order to know where we are going or how to get there we must '**use-the-future'**. This means that we are obliged to use **anticipatory systems**[1].

These systems, like those of a simple tree that loses its leaves in anticipation of winter, function with sensors, data, models, and means. The sensors capture the shorter days. The data is the chemical influence on cells. The model is the embedded process within the tree that anticipates winter, the outcome of a long evolutionary process. And the means are the internal components of the cells that react to the signals and then die, letting the leaf tumble to the ground. This is an inanimate anticipatory system; a natural phenomenon that is part of an inherently anticipatory universe. In other words a universe in which space and time make our reality constantly anticipatory as all current states contain the promise of the next place, the next moment.

Humans, unlike trees, can use the future in a conscious and constructed way. We build explicit anticipatory systems. When we cross the street most of us are at ease sensing the oncoming bus, calculating its speed and then imagining the timing of its intersection with our own trajectory. Using these anticipatory system and processes gives us the confidence to step off of the curb. We also plan in advance, using our imaginations as a means for taking actions that we hope realize a specific outcome in the future. An invitation to go to the cinema conjures up the goal in the future that is, of necessity, only imaginary. After conjuring this fiction we then we act, first by making a commitment to be there and then by using the resources necessary to be in the right place at the right time. These everyday activities deploy anticipatory systems made up of sensors, data, models and means. These systems enable us to use the future to act in the present.

But humans do not just make preparations in order to avoid being caught in the rain or minimize the damage from accidents or plan tomorrow's activities; we also have scientific and moral aspirations, to better understand reality and to act in ways consistent with our beliefs. Pursuing these goals require the use of anticipatory systems and not just those that address "simple" cases of external surprises and "best laid plans".

Our scientific aspirations push us to use the future in ways that reflect more accurately our understanding of reality. That is the basic vocation of science – to continuously inquire and test our relationship to reality. And today, in order to fulfill this aspiration, we are obliged to acknowledge that we live in a creative universe. A universe where complexity is defined not simply by infinitude, that can never be fully accounted for, nor by the inevitable inadequacy of the theories, models and variables we use to describe reality. Rather, in a creative universe complexity also finds its origins in novelty, the phenomena that pop into existence, Big Bang like, to usher in new possibilities that at a prior moment were non-existent and unimaginable. To embrace this complexity, we need specific anticipatory systems and models.

[1] See Miller (2018), Transforming the Future: Anticipation in the 21st Century, Routledge-UNESCO

Our moral aspirations also call for developing more open anticipatory systems, ones that treat uncertainty as a friend not an enemy. Welcoming openness, the creativity that confounds determinism, is a pre-requisite for feeling at ease in a world where "all human beings are born free and equal in dignity and human rights (Article 1, UDHR)." This means that morally we cannot accept just any kind of sustainable, peaceful and equitable community – only those forms that are consistent with our commitment to "life, liberty and security (Article 3, UDHR)". But once again we need to have the appropriate anticipatory systems, ones that allow us to use the future to embrace openness and liberty, to express and respect the diversity arising from creativity.

Yet, despite the centrality of the future for what we see and do in the present, relatively little attention has been paid how anticipatory systems can alter our perceptions of the present. This is the point of Futures Literacy. The idea is quite straightforward, to become more capable of using the future in different ways in different circumstances by gaining a better understanding of different anticipatory systems and the related sensors, data, models and means. The approach taken in this Futures Literacy Laboratory is to learn by doing. Workshop participants use the future to think about a specific topic.

Initially, in Phase 1 of the Futures Literacy Lab, you will be asked to describe the functioning of 'collective action' in Norway in 2040 based on what you **expect.** The idea is to describe daily life in the present tense, as if you were actually there observing Norway in 2040. The question is: what things are like – as seen from the point-of-view of 'collective action'. This description is based on your best guess about what you think is "**probable**". Then in a second part of Phase 1 you will be asked to describe 2040, again in the present tense, but this time in terms of your hopes. Imagine 'collective action' functioning as you desire, do not worry about being 'realistic'. Make your values come to life, even if you do not think that such a future is likely.

In Phase 2 of the Lab's knowledge creation process, you get to play with some new models for describing imaginary futures. You will be asked to forget about what is likely or desirable and play within a sort of imaginary sandbox, a '**reframed'** future. A set of descriptive variables and relationships will be specified that enable you to imagine, like painting a picture, (a still-life not a movie), a radically different context for 'collective action'. Like trying to paint a picture this is often not something most people are used to doing. We have little experience or skill describing daily life using unfamiliar descriptors (variables, institutions, etc.). This means that Phase 2 is hard, it calls for openness to strange ideas, a willingness to experiment with 'what-ifs' that may not be viable, it requires the confidence and energy and trust to invent and express new and untested ideas, even new words.

Finally, in Phase 3, as the contours of the anticipatory systems we use start to become clearer, the conversation turns to a re-examination of the present based on new reasons and methods for thinking about and describing the future.

People who participate in FLL discover that the futures we are constantly imagining are powerful factors shaping what we pay attention to and which assumptions we use to justify the decisions we make in the present. A better grasp of why and how to imagine the future helps to clarify why we notice some things and not others, why we decide some things are important and not others. This means that at a minimum being more Futures Literate, knowing how to 'use-the-future' in more explicit and systematic fashion, provides clearer and potentially more analytically rigorous inputs to decision making processes. But perhaps even more importantly a better understanding of the nature and role of anticipatory systems might make it easier to take advantage of emergent novelty. In other words, a better command of why and how to 'use-the-

future' can make it easier to take advantage of the only constant we know, change, and help us to celebrate instead of fear uncertainty.

2. Opening-up the Boundaries of the Topics

For the purposes of this Futures Literacy Lab terms like "innovation", "collective action" and "wealth creation", need to be defined as open concepts, amenable to the creative imagining needed to invent different futures. With respect to innovation there are a set of issues related to the degree and "location" of the "change" associated with innovation. Distinguishing endogenous and exogenous change, the degree of continuity and discontinuity of a change with respect to the resilience of existing or novel systems, and the relationships across any systemic boundaries, all require the use of non-existent future states as points of comparison. Simply put, it is impossible to determine if a change is actually endogenous or exogenous, positive or negative, and by how much, without knowing what will happen in the future. Since there is no way of knowing what will happen there is no way to know if an innovation will be innovative, in what way and by how much.

What are 'innovation eco-systems'?

"Innovation ecosystems show that a much broader set of signaling systems are in use than Hayek and market failure economists thought to be possible. Innovation ecosystems now share knowledge and signal values in ways that were unimaginable half-a-century ago. Innovation ecosystems also generate inter-dependencies and co-evolutionary paths, where history and recurrent interaction often play a more dominant role than monetary transactions. In some innovation ecosystems, for example in open source and open hardware development communities, monetary transactions can be quite invisible and a broad set of alternative signaling systems can be in use to drive ecosystem development.

Our thesis is that all this signaling and information becomes meaningful when the actors interpret it in the context of anticipatory models. Ecosystem actors operate in the context of private and shared models of the future. Foresight processes provide an instrument for changing these anticipatory models, and to change the direction and dynamics of ecosystem change." Ilkka Tuomi, "The New New Growth – Innovation Ecosystems as a Laboratory for Next-Generation Innovation Policy", Finland, Aalto University

What is systemic innovation?

"Over the past few years there has been growing interest in systemic innovation. We are defining this as an interconnected set of innovations, where each influences the other, with innovation both in the parts of the system and in the ways in which they interconnect." Geoff Mulgan, Systems Innovation, Discussion Paper, NESTA, January 2013.

Thinking about the nature and functioning of eco-systems also demands consideration of the future. As Robert Rosen argued three decades ago, anticipatory systems are embedded in all biological systems. And, as Manuel De Landa has pointed out in his work on a New Philosophy of Social Science, the inter-connectedness of systems is not only causal but also situational and formative, in other words reflexive – where status is contingent on co-existence. This leads to viewing systems as assemblages of independent, semi-independent and dependent co-actors – a sort of cloud from a metaphorical perspective. Jay Ogilvy also evokes this departure from efforts to explain emergent phenomena like human consciousness or language through reductionist approaches. He lists 8 attributes of complex emergent systems:

1. The impossibility of first instances	No first word. A language is not build out of a first, then a second, then a third word.

2. Emergent systems pop.	Come together all of a piece.
3. Holism—The Whole determines the nature of the part	A language exists for a sound to be a word.
4. Emergent Systems are recursive.	From simple to complex feedback loops, as a form of closure, albeit temporary or provisional, to set boundaries.
5. Emergent systems are unpredictable from the properties of their component parts.	Unpredictability exiles those unpredictables from the domain of what counts as science.
6. Emergent systems are irreducible to the properties of their component parts.	Always open.
7. Desire.	Uni-cellular organism swimming upstream in a glucose gradient, love beyond utility.
8. Coming Apart.	Death, effervescence.

What is 'collective action'?

When 'collective action' is defined as an emergent system in Ogilvy's terms, does it make sense to rethink the starting point? Instead of taking the existing ways of expressing collective conditions, norms and choices, can we imagine other ways of generating the public sphere or public goods or collective choice? Existing institutions, from the political to the administrative, are not the only way of creating and engaging with community, shared sense-making and inter-dependence. From cell phones and language to wikis and gifts, there are self-organizing and entangled systems that open up a variety of potential architectures for collective activity and choice, including ones where both structure and action are fluid.

What is 'wealth creation'?

The components of different societal systems, seen in both static and dynamic terms, that represent, transmit and measure value in society change over time. Just compare peasant and industrial systems, but also rich and poor societies, polluted and less-polluted, etc. What is clear is that there is value attached to most societies in both stocks, what exists and has been accumulated, and flows, what is being created and the capacity to create. But what is largely open is the extent to which what makes up these stocks and flows is tangible or intangible, oriented to creating rents as opposed to profits as opposed to well-being. The purpose and organization of the inter-dependencies that define the continually emerging meaning of things, relationships, identities are open. Wealth creation can be defined, in accounting terms, in almost any way we want – all that is required is that we agree. This is the brilliance of accounting and it is also why accounting is closely tied to power. For the purposes of this Lab it is important to keep in mind that societies define what and how to create wealth.

Context

Innovation and 'collective action' exist in specific contexts of both time and place. Thinking in terms of timing, why are there so many people in so many different places so focused on innovation? What is it about the current historical context that provokes similar discussions in many different places? What is it about the 'collective action' at this point in time, in different parts of the world, but particularly in Norway, that is motivating a search for a particular type of change and change process – i.e. innovation? And what is the relationship between the changes taking place in other systems such as economic, social and the public sector that calls

for innovation?

All of these questions, as well as potential answers, contain assumptions about the future. The choice of particular anticipatory assumptions plays a key role in the formulation of questions, problems and solutions. Fundamentally, given the dominant view of agency – or how to make a difference – the purpose of thinking about the future of 'collective action' and innovation arises from a particular conception of what matters for tomorrow. But are these anticipatory assumptions fully explicit and are they the only ones? These are questions to explore in this Futures Literacy Laboratory.