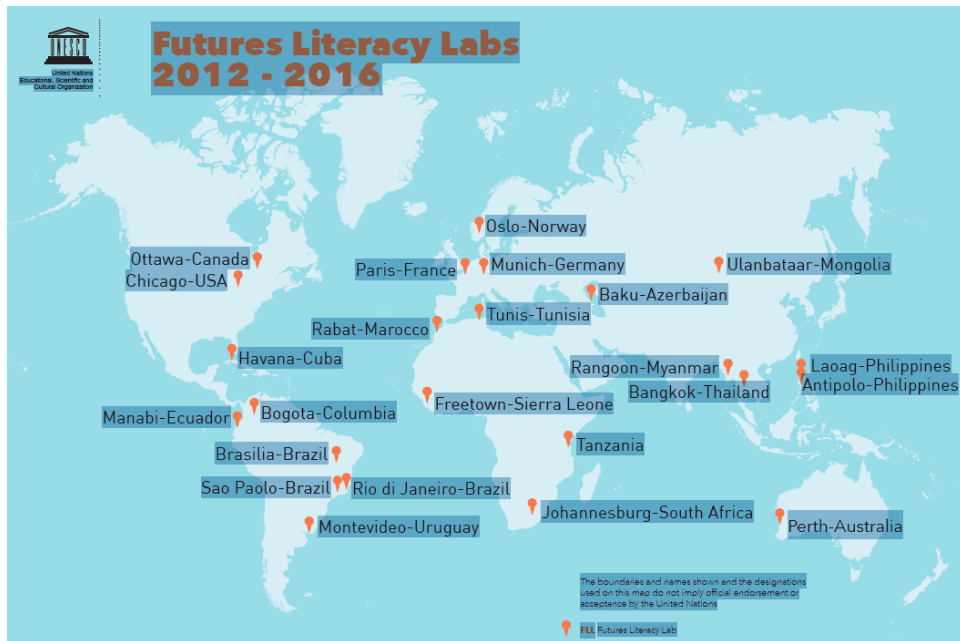


Transforming the Future: Anticipation in the 21st Century

(Theory and design principles for using the future or
what it means to be futures literate)

Riel Miller
UNESCO

Turku, Finland
June 13, 2017



- **Paris:** The Future of Cultural Heritage Research, November 19-20, 2012
- **Baku:** Scoping Global Anticipatory Capacities, June 1, 2013
- **Paris:** Knowlab Design Test Session "Scoping the Know-Lab: Tomorrow's Knowledge, Creation Microscope", June 20-21, 2013
- **Brasilia:** The Future of Science, 11-12 July, 2013
- **Sao Paolo:** Changing the Way Universities Use the Future?, July 15, 2013
- **Chicago:** The Future of Futurists, July 19, 2013
- **Oslo:** Innovation as Learning, Knowing as Learning, Knowing as Science: Imagining a Universal Innovation Society in 2040, October 21-22, 2013
- **Bogota:** Using the future to think about local labor markets, November 25-26, 2013
- **Rio de Janeiro:** Imagining the Future of Science in Society, November 28-29, 2013
- **Paris:** Imagining the Future of the Transition from "Youth" to "Adult", January 13-14, 2014
- **Freetown:** Youth & Rites of Passage in Sierra Leone, January 20-21, 2014
- **Munich:** Imagining the Future of Sports in Society, February 5-6, 2014
- **Paris:** Inhabiting Planet Earth 2100: Beyond Cities?, March 27-28, 2014
- **Calceta, Bahia de Caraquez, Monta:** A Series of Future Literacy Knowledge Lab in Ecuador, April 26-May 1, 2014
- **Yangon:** Addressing the future of education in Myanmar?, May 2-3, 2014
- **Laoag City:** Resilient Cities, Brighter Futures -A Forum for Sustainable City Futures, May 21-24, 2014
- **Johannesburg:** All Africa Future Forum, May 26-28, 2014
- **Ottawa:** The Future of Innovation Ecosystems in the Public Sector, June 4-5, 2014
- **Tanzania:** Future-Proofing an Entire Nation, September 2013
- **Brasilia:** Joint International Foresight Academy, November 16-21, 2014
- **Paris:** L'Afrique de Demain ?, May 21, 2015
- **Rabat:** Imagining Africa's Future, June 25-26, 2015
- **Bangkok:** Rethinking Education: the Future of Informal Learning, September 1-3, 2015
- **Ulaanbaatar:** The Future of Mongolia, September 20-October 2, 2015
- **Paris,** 9th UNESCO Youth Forum, October 26 – 28, 2015
- **Rabat:** Futures Literacy: Advancing a Community of Practice in Africa – The Future of Urbanisation and Water in North Africa, December 4-5, 2015
- **Tunis:** Social Transformations, 3 – 4 March, 2016
- **Montevideo:** What Development for What Uruguay? March 28 – 30, 2016
- **Paris,** Reframing Mobility and Identity: The Future of Africa, July 4 – 5, 2016
- **Havana:** Using the Future to Embrace Complexity, July 13, 2016
- **Antipolo City:** Developing the Capacity of Filipino Youth Leaders to Use the Future, November, 13-16, 2016

Futures Literacy


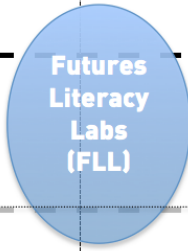
(conscious anticipation)

Is a capability that rests on an understanding of:

1. Discipline of Anticipation (DoA):
knowing why you want to use the future determines what kind of future to imagine.
2. Knowledge Creation Processes (KCP):
describing different kinds of imaginary futures requires different kinds of KCP – the how-to of anticipation.

Anticipatory assumptions consist of the why, what and how of imagining the future.

Diagram 1 – A Framework for Describing and Researching Futures Literacy

Discipline of Anticipation (DoA) (Anticipatory Systems (AS))				Epistemological (Knowledge Creation Processes (KCP))		
			Generalization - Scalability <small>(statistics, common denominators, universals)</small>	Specificity - Unique <small>(collective intelligence knowledge creation)</small>		
	System	Purpose	Type			
O n t o l o g i c a l	Conscious Closed	Anticipation for-the-Future (AfF)	AS 1 Preparation & AS 2 Planning 	AA1		AA2
	Conscious Semi-Open	Anticipation for-the-Future (AfF)		AA3		AA4
		Anticipation for-emergence (AfE)	AS 3 Novelty [Not-doing]	AA5		AA6
	Non-Conscious Anticipation			Biology, physics, political science, mathematics, sociology, etc.		

What is the future? How is it used?

“Good heavens! For more than forty years I have been speaking prose without knowing it.”

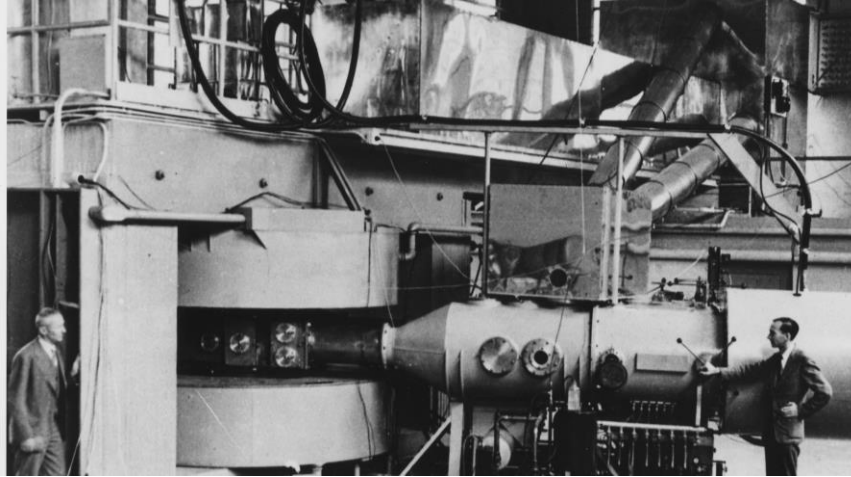
Monsieur Jourdain in Le Bourgeois Gentilhomme (1670) by Moliere

How to discover how people use the future when they do not realise that they are using the future?

Cyclotron

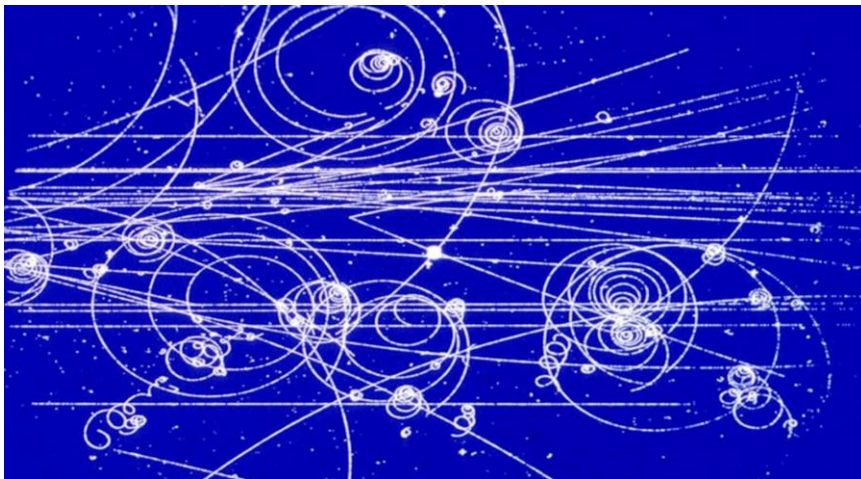
[University of California Lawrence Radiation Laboratory](#),

Berkeley, August, 1939



Source: <http://www.wikiwand.com/en/Cyclotron>

Making the invisible visible



Futures Literacy Laboratories

Using the FLF to map FL

- Theory:
 - Anticipatory Systems – kinds of future
 - Collective Intelligence Knowledge Creation
- Practice:
 - Action-research
 - Action-learning

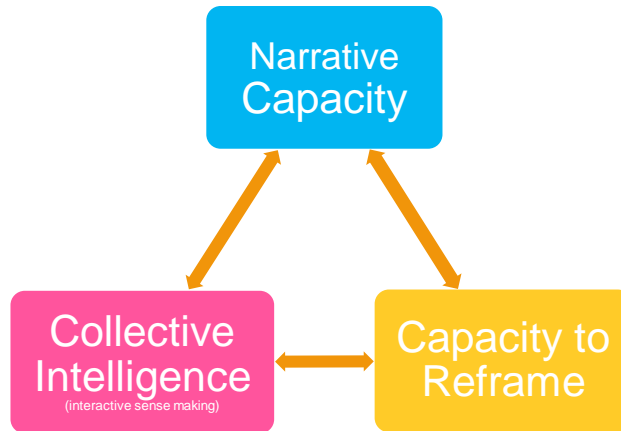
Research objective: making the invisible visible...
'proof-of-concept' level evidence for the pertinence
of the FLF

Value proposition: FLF helps to design FLL that
generate 'ontological expansion' by cultivating FL.

In the late 17th Century
Anton van Leeuwenhoek
discovered bacteria.
The microscopes he
invented revealed invisible
worlds. But it took another
two centuries to make
sense of this discovery.

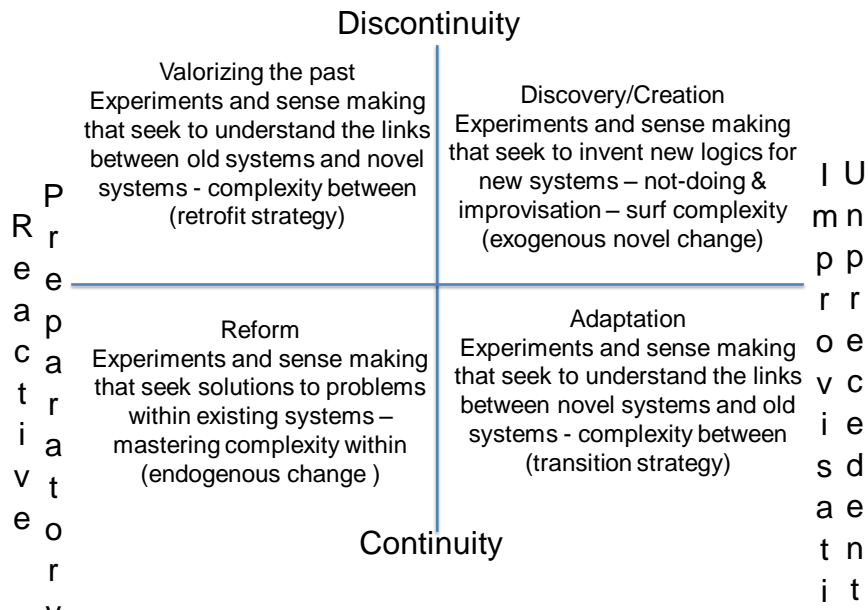


Collective intelligence knowledge creation processes: microscope of the 21st century

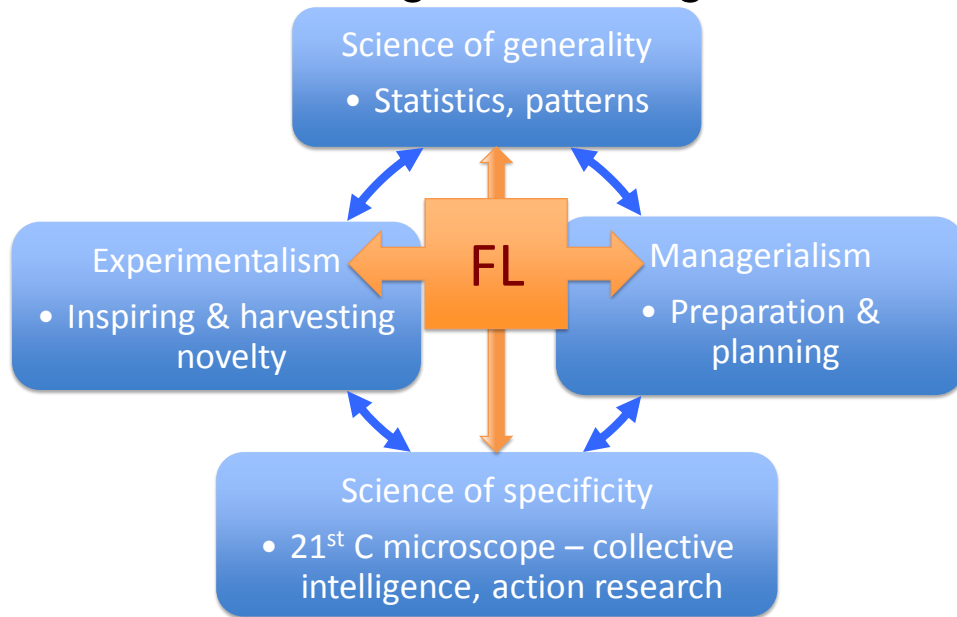


What are we trying to help people to do?

Distinguishing search & choice, continuity & discontinuity



The value-added of Futures Literacy: Walking on both legs



“Our very understanding of the world changes the conditions of a changing world; and so do our wishes, our preferences, our motivations, our hopes, our dreams, our phantasies, our hypotheses, our theories. Even our erroneous theories change the world, All of this amounts to the fact that **determinism is simply mistaken** (emphasis in the original): all of its traditional arguments have withered away and indeterminism and free will have become part of the physical and biological sciences.”

Karl Popper, Two New Views of Causality, 1990, p. 17

Human agency and complexity:
resilience & values in the present



Thank you
Riel Miller

Image: Sempe