

EVA23

Annual conference 2018



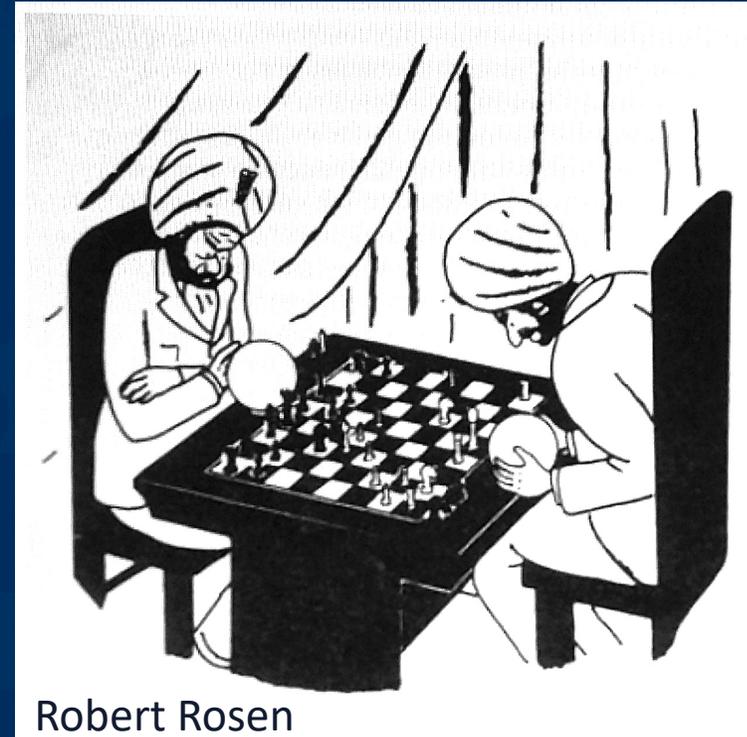
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Anticipation

The future causes the present

A significant cause of disruption to the smooth and well-ordered process of project / value management is...
anticipation



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”

Miller, Poli and Rossel 2013

Prospection is natural

“...the **representation of possible futures**, is a ubiquitous feature of the human mind...[...]

... involves no backward causation [...] it is guidance not by the future itself but by present, evaluative representations of possible future states

... a central organizing feature of perception, cognition, affect, memory, motivation, and action....

... navigation into the future is seen as a core organizing principle of animal and human behavior.”



Seligman, M. E., Railton, P., Baumeister, R. F., & Sripada, C. (2013). Navigating Into the Future or Driven by the Past. *Perspectives on Psychological Science*, 8(2), 119-141.

Gilbert, D., & Wilson, T. (2007). Prospection: Experiencing the future. *Science*, 351, 1351–1354.



Anticipation skills can be developed

“Don't keep your eye on the ball.
Keep your eye on where the
ball's going to be.”

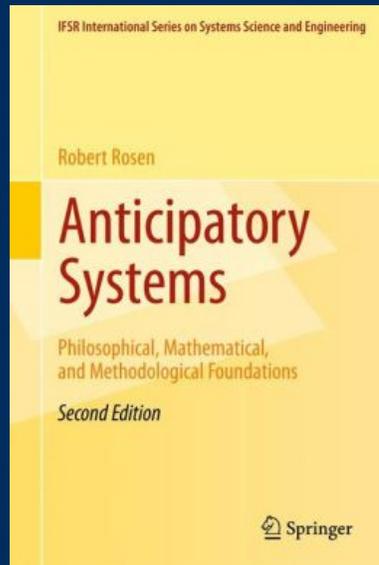
@PeteEtchells

Guardian Newspaper, 22 Aug
2013



Photo: Owen Humphries / PA

Anticipatory systems

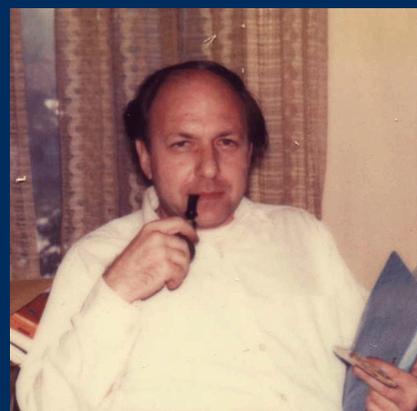


“An anticipatory system is a natural system that contains an internal predictive model of itself and of its environment, which allows it to change state at an instant in accord with the model’s predictions pertaining to a later instant”

(Rosen 1985, p341).

Rosen, R. (1985). *Anticipatory systems : philosophical, mathematical and methodological foundations*. Oxford: Pergamon.

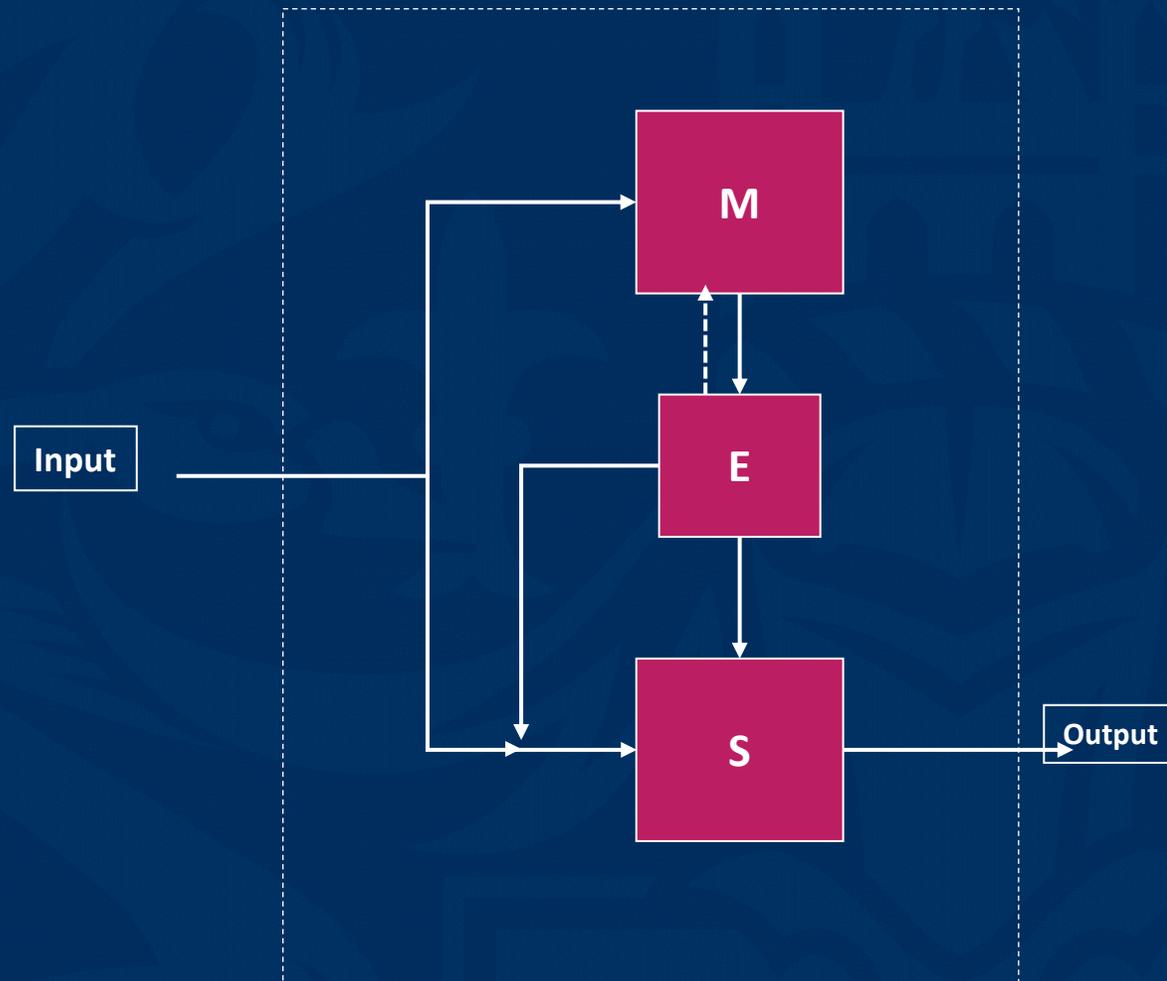




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“Life itself”





MS is a composite system

M is a predictive model – by looking at a present state of M, one obtains information pertaining to a future state of S.

M is equipped with a set E of effectors that operate either on S itself or on the environmental inputs to S, in such a way as to change the dynamical properties of S.

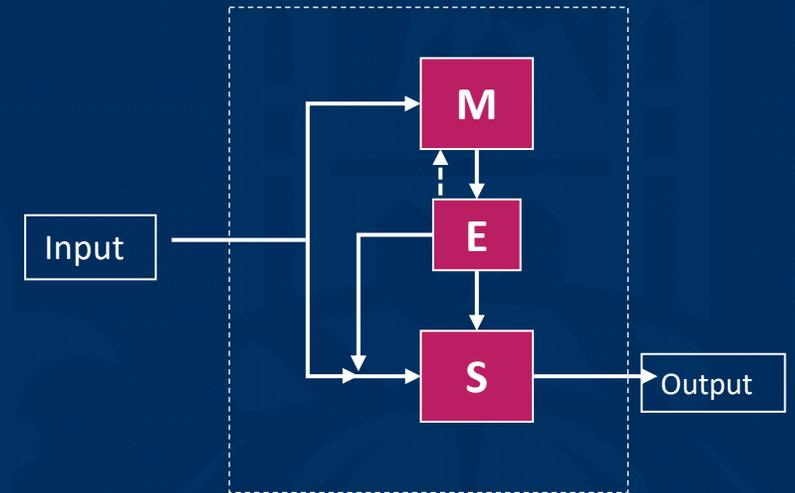
An anticipatory system S entails the following:

S possesses a model subsystem M;

There is an orthogonality between the model M and the collection of observables of $S \sim M$;

The rate of change (the adaptation) of observables of $S \sim M$ depends on M;

The effect of the model M creates a discrepancy – S would have behaved differently if M were absent

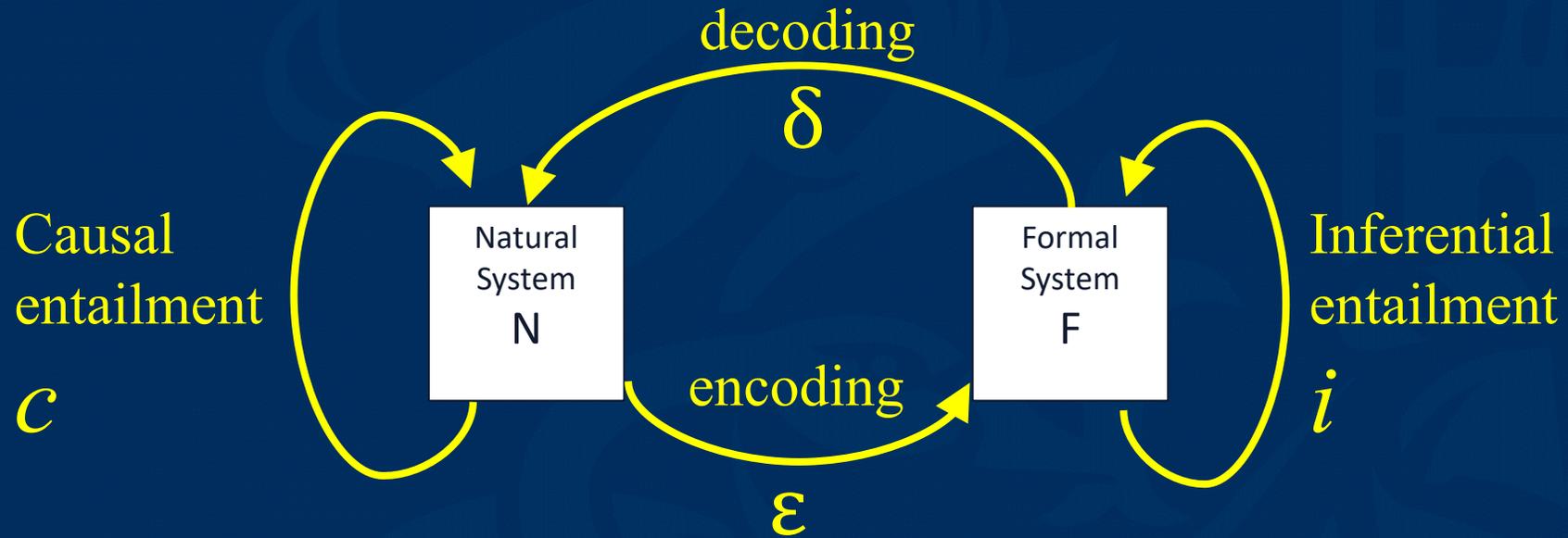


Inference and modelling relation

- **Modelling relation** is the way that the system's internal model (of itself in its environment) is related to itself in its environment.
- It is this set of relations that forms the predictive inferences guiding the purposeful activities of the system...

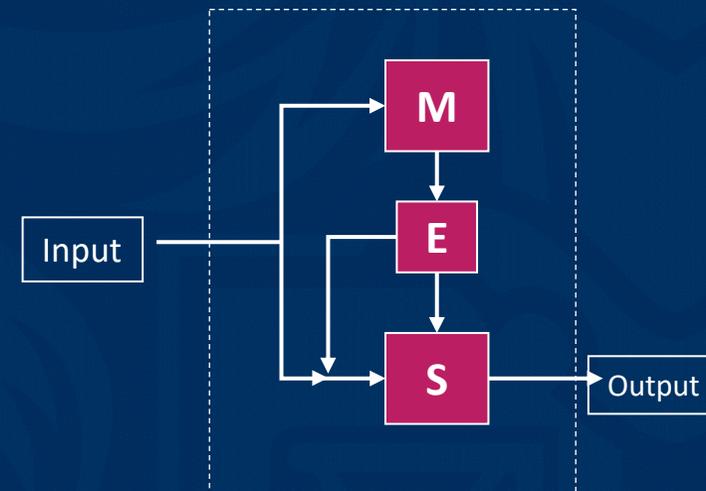
Future states of the system affect the present changes of state

Modelling relation



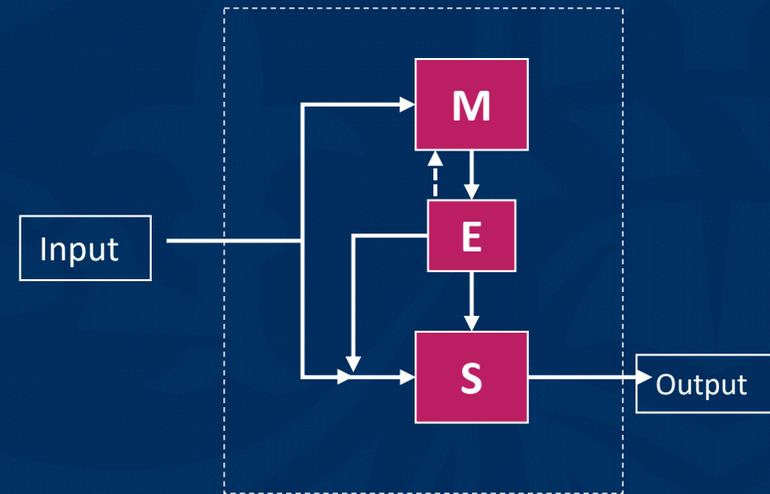
Implication of Rosen:

Effector activity is stimulated by inferential entailment, not by casual entailment



Modelling relation

- The modeling relation itself is essentially a linkage between the behaviours in S and inferences drawn in M [which] become predictions about the behavior of S”

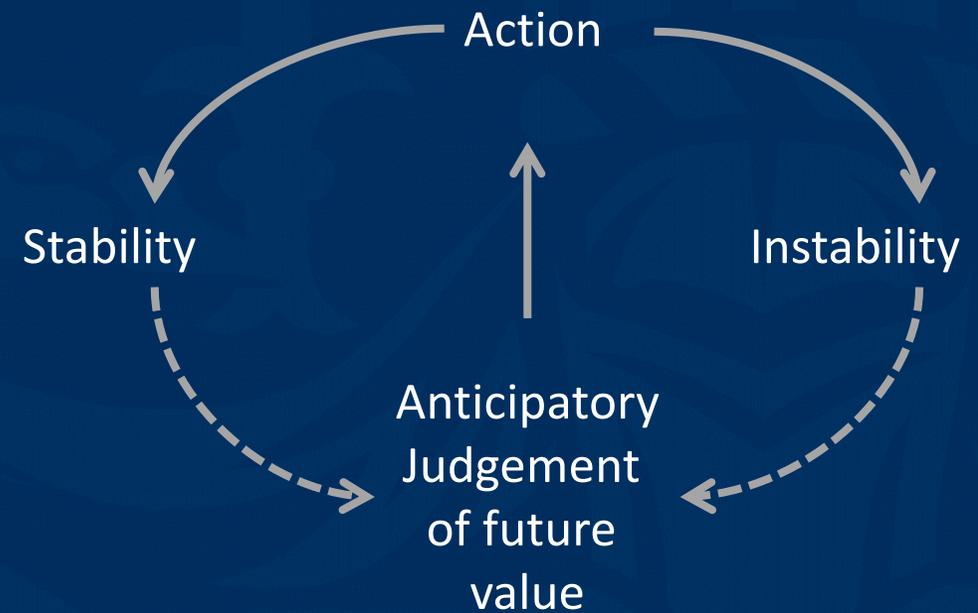


Anticipatory systems involve **action** (via Effectors)

Simple cognition or inference or prediction without action is not an anticipatory system. It is, at best, anticipation (not a system).

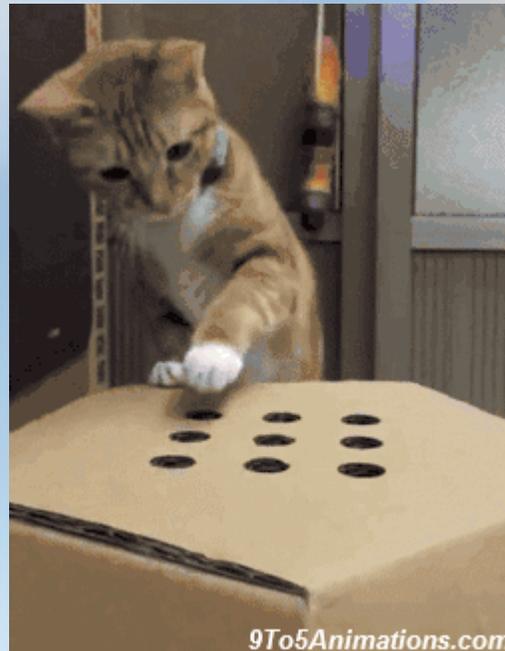
The natural disposition to evaluate and act on anticipations causes change.

One cannot understand change without appreciating anticipatory systems



So, go anticipate!

What could possibly go wrong?



Planning and anticipatory systems

... “try to understand the planning process itself most effectively within the context of the heretofore **forbidden class** of anticipatory systems.”

(R. Rosen, 1974, p248)

...the modes of system description used [in planning] are “derived from Newtonian mechanics in one way or another and therefore **no theoretical basis exists for understanding systems which are anticipatory**”

What could possibly go wrong?

Rosen does not assert that any prediction contained within such a process is accurate.

“we do not know what we *will* know”

Nassim Nicholas Taleb (2007) *The Black Swan: The Impact of the Highly Improbable*, p173



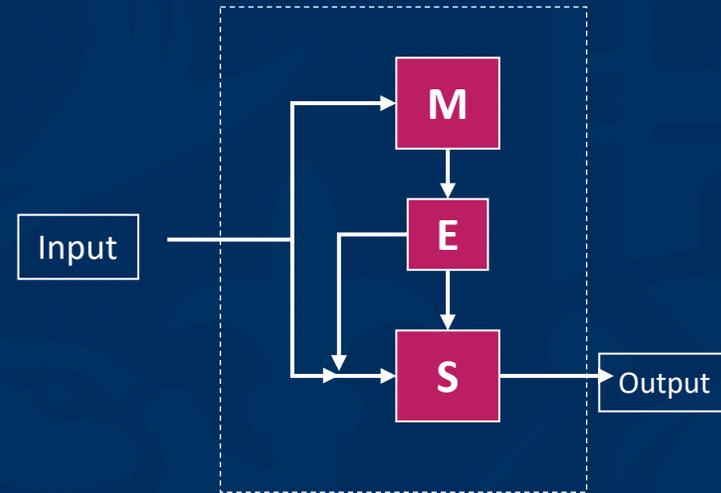
Bifurcation – disconnecting the model system from the natural system

“Ultimately the behaviours of a [simple / closed model system] and an [open natural system] will bifurcate from one another. At such a time, we must replace our model by another; i.e. by another *simple* system, which encodes the degrees of freedom then dominating the interaction”.
(Rosen)



Errors

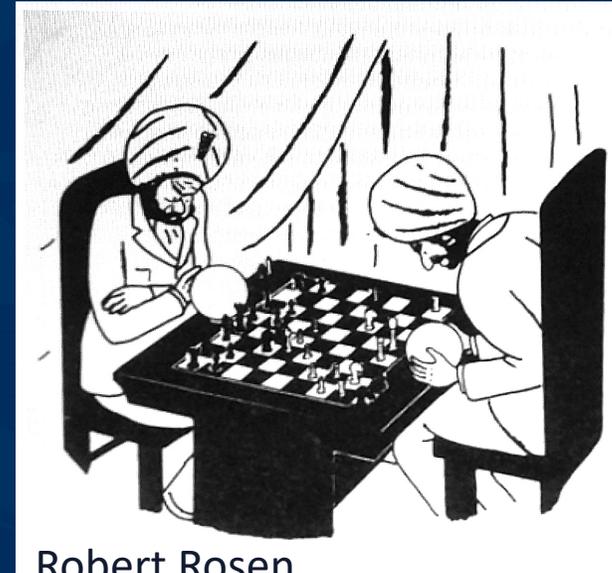
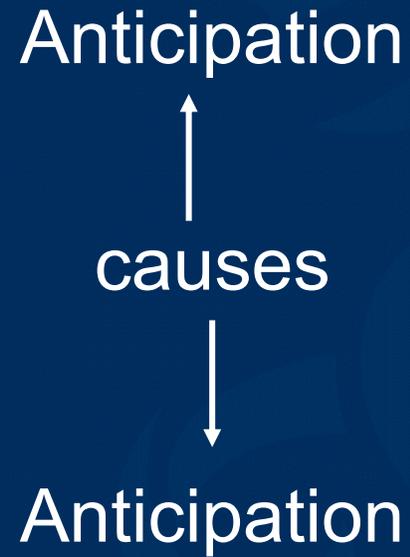
- Bad model
- Wrong paradigm (non-anticipatory)
- Unsynchronised systems state between Model M and System S



- Bad effectors (E)

- Side effects
 - Resources engaged in more than one Anticipatory System
 - Greater degrees of freedom than system S

Reflexivity and regress



Reflexivity and regress

Anticipatory environment having inferential entailments with the system S

- Greater degrees of freedom than system S
- Infinite regress

“What is knowable cannot be changed, what is changeable cannot be known” (Alastair Hewitt)

The problem is **instability** which is the result of an anticipatory system continually reassessing and modifying itself in relation to its environment, creating an “infinite and futile regress”

Subjectivity in anticipatory regimes

“Crucially, predictable uncertainty leads to anticipation as an *affective* state, an excited forward looking subjective condition characterized as much by nervous anxiety as a continual refreshing of yearning, of ‘needing to know.’”

Adams, V., M. Murphy, et al. (2009)

Re-adjusting perspectives of futures thinking

- What we can know
- What we can't know

Knowledge
about futures



- Our responsibilities
- Anticipatory effects

Relationships
with futures

Security of our knowledge

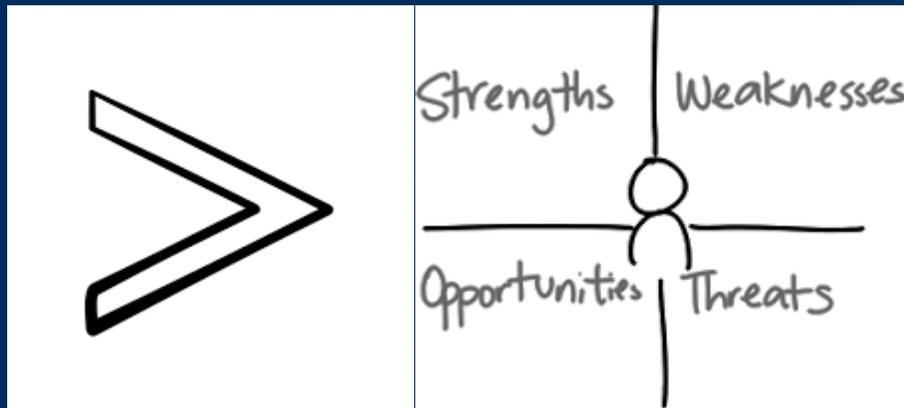
Scenarios
Images
Trends
Horizon Scanning
Environmental analysis
Risk analysis

Security of our ethics

Governance
Consequences of actions
Assumed values used
Affect e.g. hopes and fears
Imagination, Aspiration, Anticipation

Challenges

- What forms of *anticipatory work* are needed in the organisation for strategic existential survival?



- In the practices of the organisation, in what ways are actors anticipating the dynamics between their version of organisation and their version of stakeholders?
- What is being developed and how many people understand these innovations (what is unknown)
- How do “imagination, anticipation and aspiration” motivate anticipatory action.

Anticipation

Mediates between knowledge and action

Anticipatory Work

This is not planning in a co-ordination sense, but in a sense of *re-perceiving**, in order to give shape and meaning to observations that don't fit with the dominant mental model

*Pierre Wack



- Recognising multiple salient anticipatory systems and their degrees of freedom
- Identifying moving boundaries
- Experimenting
- Recognising feed-forward as well as feed-back
- Sensing changes in meaning
- Evaluating and narrating value across anticipatory systems
- Imagining and exploring alternatives.

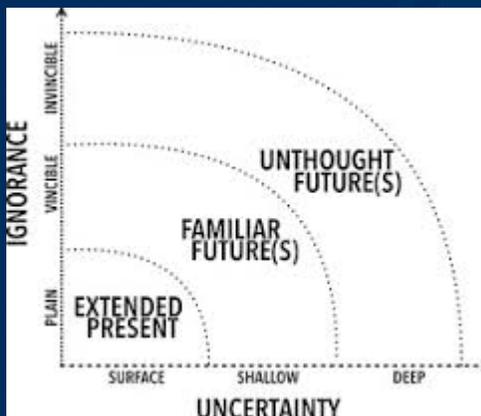
Implications for professional management?



Ignore – reduce uncertainty, outsource responsibility?



Reframe your work as stabilising an anticipatory system (or complex of anticipatory systems)?



Increase pre-planning foresight work, opening the space for greater contingency and validity

Sardar, Sweeny et al

Anticipation

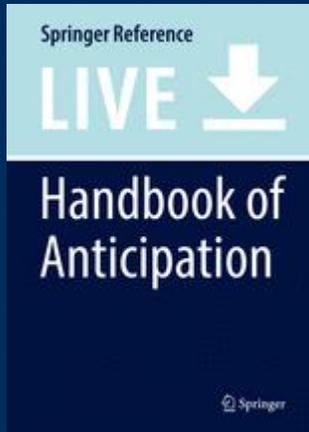
Is part of the temporality of being
(after Heidegger)

Mediates between knowledge and
action and hence causes change

Gives absence meaning

Causes effects and stability

Values and the anticipation of value
are central to inferential modelling
relations, and hence anticipatory
systems, and hence to “life itself”.



Handbook of
Anticipation
Ed. Roberto Poli

Fuller, T. 2018.
"Anticipation and the
Normative Stance."

Perhaps this short
talk may assist you
in framing what you
hear over the next two
days.

Thank you



Fuller, T. 2017.
"Anxious
relationships: the
unmarked futures
for post-normal
scenarios in
anticipatory systems



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