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Strategy Development in a Complex World:

ontology not metaphor

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Managers are expected through common practice to act as if the world is mechanical
-controllable, predictable, measurable

-Accepting complexity concepts into this mindset can do more harm than good, particularly if their derivation is not well understood

-What can be more fruitful for managers is to consider the implications of adopting a 'evolutionary complexity ontology' and ask what that means for practice in strategy development,
and to explore whether complexity concepts and mindsets play out in practice

Complexity concepts as used by practitioners – metaphor or science?

Tipping points
Self-similarity
Edge of chaos
Fractals
Simple rules
Power laws
Sensitivity to initial conditions
Equifinality
Strange attractors
Far from equilibrium

This paper is not a challenge to modelling

This paper is highlighting the implications of managers and practitioners not versed in modelling 'believing' in complexity concepts because they are 'scientific'

The 'real world', learning from doing/observing, learning from modelling

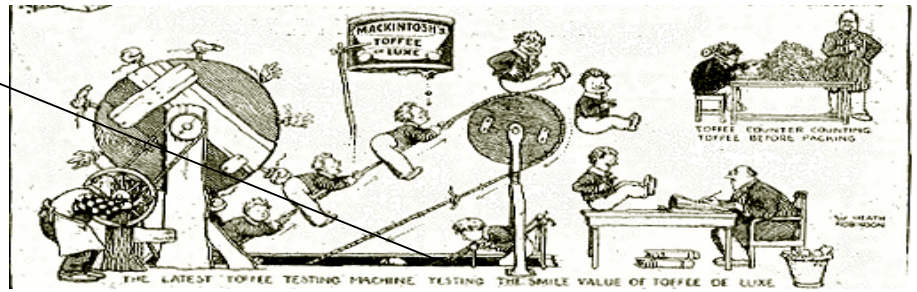
'reality'

Mindset

Fieldwork
Practice
Cases
Narrative
Qualitative/
quantitative

Various approximations, simplifications and omissions

Knowledge
Processes
Patterns
Hypotheses

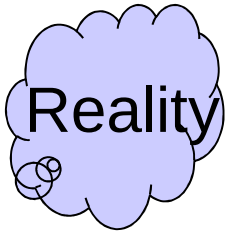


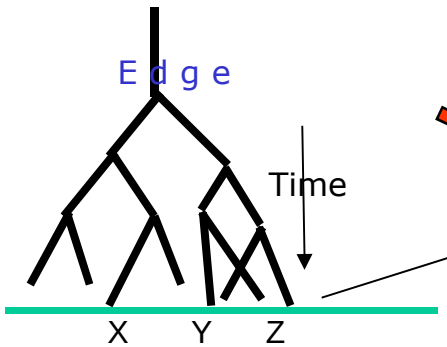
Modelling

An emperor wishes to have a perfectly accurate map of the empire made. The project leads the country to ruin – the entire population devotes all its energy to cartography
(Lyotard 1979:55)

Models and successive assumptions

Complexity → Successive Assumptions → Simplicity





Evolutionary Complexity

Role of variation

Open

Structural Evolution

Emergence of new Variables

Tipping points

Structural stability, Fixed variables

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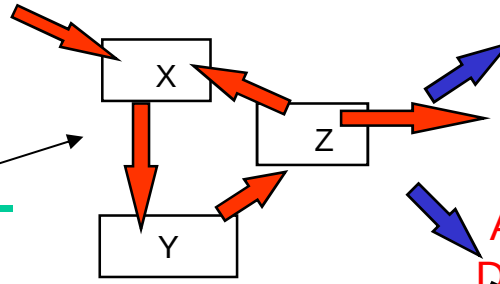


Probabilistic Non-linear Dynamics

Dynamic, non-Gaussian Probabilities, Master Equation, Multi-Agent Models;

Fixed variables but self-organisation

Equifinality

Tipping points

c h a o s?

Stationarity

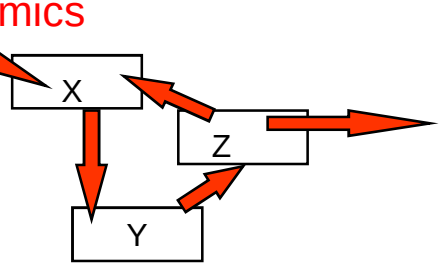
Self-Organized Criticality

Power laws

Macro simple rules

Attractors

Average Dynamics



Mechanical Non-Linear Dynamics

Micro simple rules

Deterministic System Dynamics, Chaos

Sensitivity to initial conditions

Allen and Boulton, 2011

Simple rules?

H*umans and their organizations are guided by imperfect schemata that are revised as a consequence of experience, leading to changed behaviours and innovations.*
(Allen et al 2011)

Stephen Wolfram (2002) argues that complex phenomena can be generated by simple, algorithmic rules….
A danger here is the conflation of reality with a computer simulation.

Simple algorithms can give rise to complex outcomes but that does not mean that the complexity we find in reality has an equivalent and equally simple outcome.
Hodgson (2011:590)

Even for birds, simple rules evolve as they support successful behaviour.

Edge of chaos? Empirical research – Maclean and MacIntosh, 2011

Organizations 'on the edge of chaos' are
attributed with the ability to exhibit spontaneous, prolific, complex and continuous change.
Maclean and MacIntosh (2011)

Maclean and MacIntosh found that *some organisations can operate whilst positioned*
between a stable structured state and one of total randomness….
but that such a position requires constant management vigilance to avoid slipping into pure chaos
or pure structure.

In fact they found that only two out of their sample of 18 achieved it. They also concluded that
there was no evidence that the adoption of these practices improved the performance of the company.

So might it be more useful for practitioners to consider complexity as an ontology rather than seek specific solutions, methods, maxims?

The ontology of evolutionary complexity (Prigogine, Allen)

Patterns

(institutions, culture, routines, laws, political norms, supply-demand curves)

Disturbance to patterns

(events, chance, deliberate action, variations, shocks, shifting alliances)

Evolutionary complexity is the theory of open evolutionary systems and emphasises that patterns only inform about the future in stable situations

The path-dependent future

Systemic;
Emergent;
Contexted;
Path dependent

'[Complexity] begins to throw light on the basic difference thought to exist between 'science' and 'history'. In the former, explanation was believed to be traceable to the working of eternal, natural laws, while the latter provided explanation on the basis of 'events'. In this perspective of self-organising systems we see that both aspects are present and that such systems are not described adequately by either laws (their internal dynamics) or events (fluctuations) but by their interplay.'

Allen (1997:16)

Evolutionary complexity (as shared with practitioners) the nature of 'how things are'

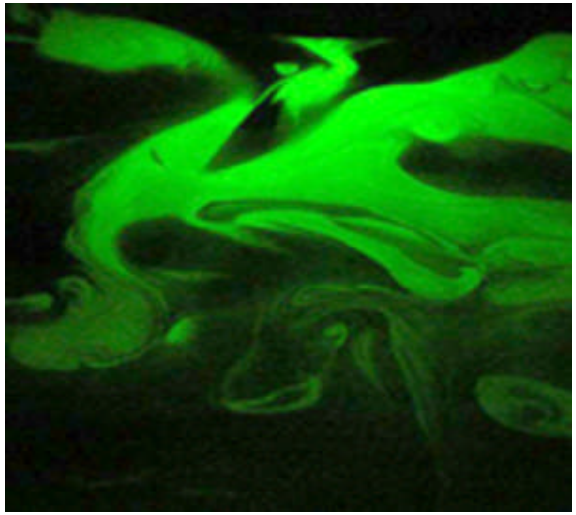
- Systemic; everything is connected synergistically– and open to and co-evolving with the environment
- Path dependent; situations are unique; context and history and scale matter
- Variation, diversity are ***generative***, essential for resilience and adaptation
- There is more than one future; radical new properties can emerge , irreversibly, at 'tipping points'

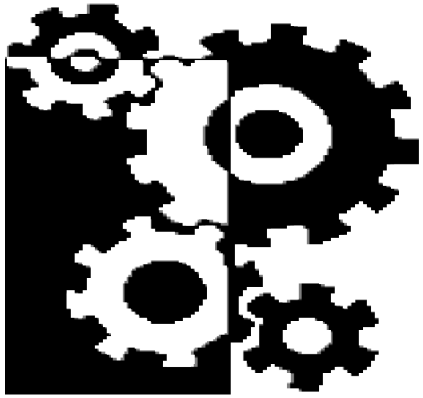
So, for managers, strategists and practitioners, is the world like this?

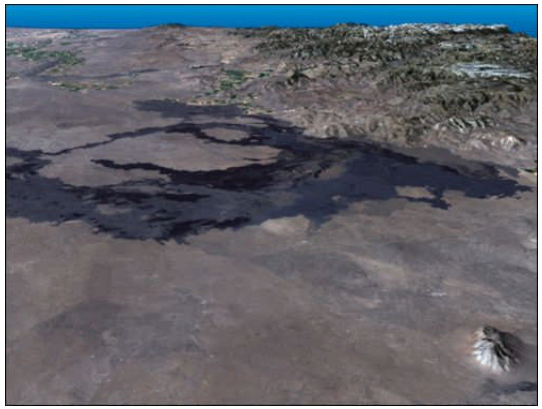
How often do strategies (a) get implemented and (b) if implemented, achieve desired outcomes?

Has **your, personal** life gone to plan? If not why not?

Which pictures are most congruent with the way the world functions?







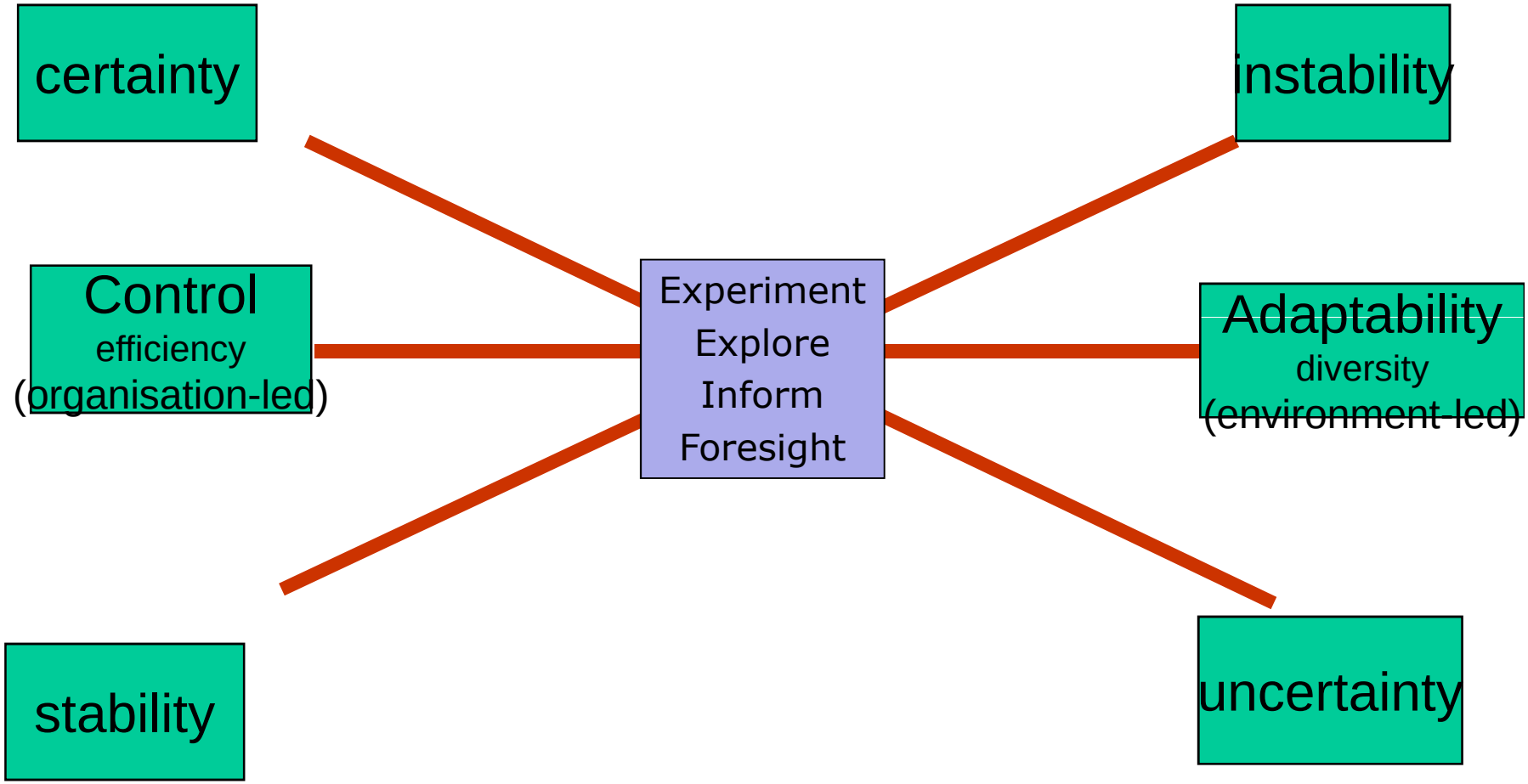
What advice can be given.

What does the mindset of evolutionary complexity suggest you should do in relation to strategy development?

Advice for strategists working with an evolutionary complexity mindset

Make informed judgements about the stability of the environment

Contingent choice in strategy; judgements about stability of environment

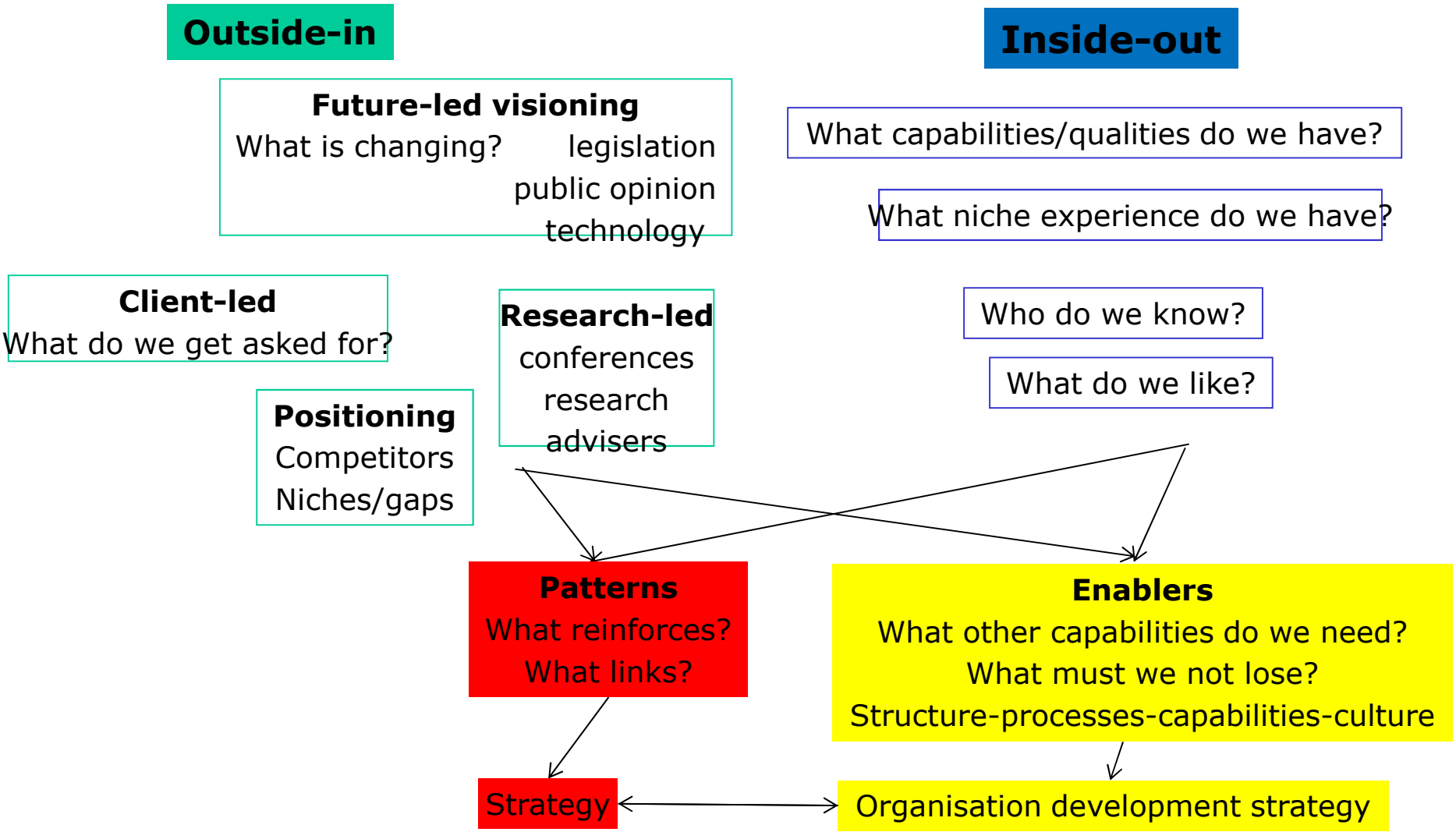


Advice for strategists working with an evolutionary complexity mindset

Make informed judgements about the stability of the environment

``**Look for synergies between inner and outer perspectives**

A real example of how strategy develops



Advice for strategists working with an evolutionary complexity mindset

Context

Make informed judgements about the stability of the environment; exploit efficiencies where stable, establish conditions for adaptability where not

Don't overly standardise and streamline so no potential for adaptation

Deal with what is – because it worked there or then it may not work here and now

Systemic

Look for synergies between inner and outer and within inner and outer

Emergence

Look for signs of potential tipping points – scan widely, foresight; use data, analysis but allow for the existence of unknown unknowns

Weave intentions using multiple perspectives but allow more flexibility in planning; allow local adaptation and encourage shared learning

See what is working and build on that

Unknown future

Build a portfolio – diversify risk; today's cash cow might die, tomorrow's star might rise

Experiment

Review regularly, learn and make changes

Expect failures

Conclusion

Evolutionary complexity reminds us the world is:

Dynamic

Emergent

Systemic

Contingent on local and historical detail

To act professionally in such a complex world requires methods that reflect this complexity.

To act as if the world is measurable, predictable and stable if it is not does not make it so…

Allen, P and J. Boulton (2011) SAGE Handbook of Complexity and Management, Chapter 10
Complexity and Limits to Knowledge: The Importance of Uncertainty

Boulton, J (2012) Strategy for a Complex World, in 'Strategic Perspectives' ed J Verity, Palgrave Macmillan (due October 2012)