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Dave Snowden's Frameworks

Eight cores of complexity thinking — and a few newer additions

Compiled from the London masterclass and the Cynefin wiki

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Satori Finland · 23 April 2026

Introduction

This document brings Dave Snowden's and the Cynefin Company's core frameworks together — not as a catalogue, but as thinking tools. At the heart of Snowden's work is naturalistic sense-making: complexity is not a problem to be solved, but a reality we need to learn to engage with intelligently.

The eight "cores" — Cynefin, Estuarine Mapping, Flexuous Curves, Uncertainty Matrices, 3 As, ASHEN, AIMS, and WRASSE — are treated here as a practical core set for working with Snowden's complexity thinking. This grouping follows the London masterclass structure and this document's pedagogical synthesis rather than a fixed public canon. Alongside these, we cover PAGODA (the qualities of a complex system), ACUMEN and the Cognitive Triad (human judgment in the age of AI), and several building blocks for thinking: abductive reasoning, perdurability, and wayshaping.

This is an English version compiled from the author's notes that originally drove the Finnish and Japanese editions. Where this version uses Snowden's own published phrasing, that is by design; where it summarises or interprets, the section ends with a pointer to the primary source so the reader can compare.

Several frameworks remain works in progress. At the time of writing (April 2026), the Cognitive Triad (3S, February 2026), Wayshaping (August 2025), and WRASSE are all still in public development. Each chapter that touches them flags this explicitly.

Readers new to these frameworks can begin with **Appendix B**, which gives a one-sentence plain-language summary of each chapter. The body of the document remains technical and assumes familiarity with the terminology.

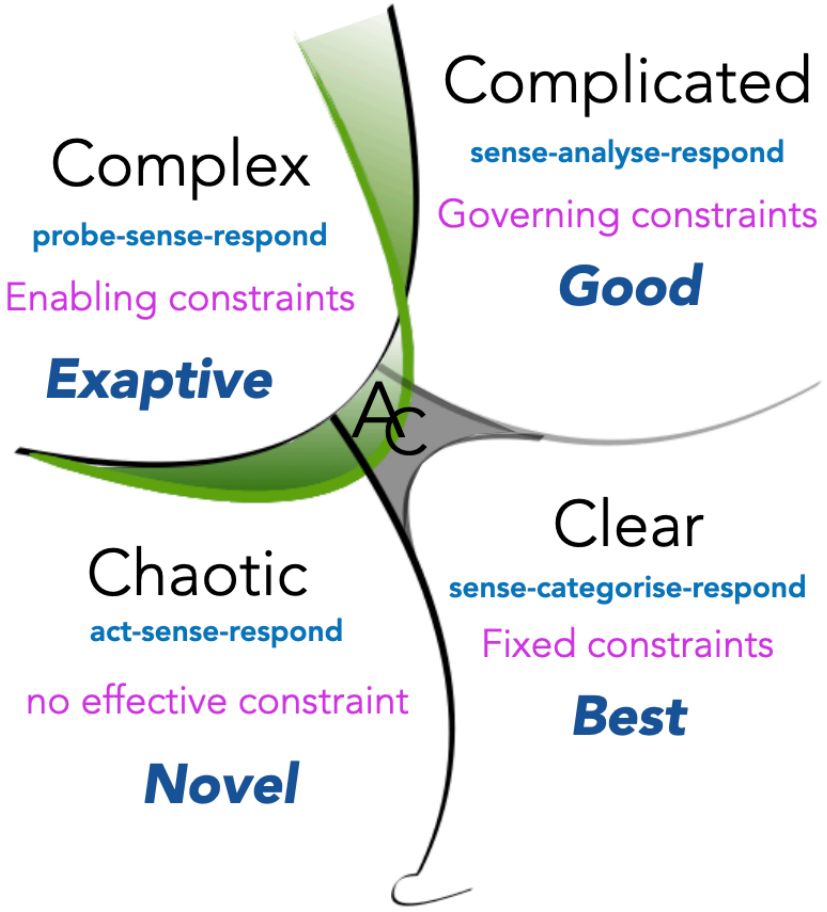
Contents

Introduction 2
1. Cynefin — a five-domain sense-making framework 4
2. Estuarine Framework and Estuarine Mapping 8
3. Flexuous Curves — the dynamics of ecosystems 11
4. Uncertainty Matrices — types of uncertainty 14
5. 3 As — Agency, Affordance, Assemblage 17
6. ASHEN — five forms of knowledge 19
7. AIMS — what is manageable in a complex system 21
8. WRASSE — weaving risk and strategy 23
9. PAGODA — qualities of a complex system 26
10. ACUMEN — six dimensions of human judgment 28
11. The Cognitive Triad (3S) — human cognition in the age of AI 30
12. Abduction vs. induction and deduction 32
13. Perdurability — redefining endurance 36
14. Wayshaping — shaping the substrate so good decisions can grow 38

How the frameworks relate to each other 43
Sources 44
Appendix A — Cynefin Frames 45
A.2 Clear Frame 46
A.3 Complicated Frame 47
A.4 Complex Frame 48
A.5 Chaotic Frame 49
A.6 mwg coffi cynefin — the coffee-mug view 50
Appendix B — Plain-language summaries (for first-time readers) 52

1. Cynefin — a five-domain sense-making framework

Cynefin (Welsh for "a place of your multiple belongings", pronounced kuh-nev-in) is a sense-making framework that Dave Snowden developed at IBM in 1999. In Snowden's own definition it is a decision-support framework, not a model or a method. Its core principle is bounded applicability — there are few if any context-free solutions, but many valid context-specific ones. Cynefin is used to identify the nature of a situation before choosing a course of action. In the current form used here, it has five domains — Clear, Complicated, Complex, Chaotic, and the central domain Aporetic, which in 2019 replaced the older "Disorder" box (and complements liminality, introduced in 2017). The aporetic centre can be split further into an authentic side (Aporetic proper) and an inauthentic side (Confused); this distinction is part of Cynefin's natural development and does not introduce a new domain.



Kuva: cynefin.io wiki · käytössä Dave Snowdenin luvalla.

The five domains

Clear (formerly "Obvious" or "Simple") — clear cause-and-effect relationships. Action mode: *sense → categorise → respond*. Practice: "best practice". Routines, checklists, standardisation.

Complicated — cause and effect can be discerned, but it requires expertise. Action mode: *sense → analyse → respond*. Practice: "good practice". Engineering work, medical diagnosis.

Complex — cause and effect are only visible in retrospect. Action mode: *probe → sense → respond*. Practice: *exaptive practice* (formerly "emergent practice", but Snowden retired that term around 2022). Probes, safe-to-fail interventions.

Chaotic — no discernible cause-and-effect relationships. Action mode: *act → sense → respond*. Practice: "novel practice". Immediate action to stabilise.

Aporetic (A) — a central domain in which one *deliberately pauses to consider what dimensions a situation has*, instead of rushing into action "the way we always do it". Snowden introduced the term *aporia* (Greek ἀπορία, an impasse, an unbridgeable gap — a philosophical perplexity) to Cynefin in 2019 to replace the older "Disorder"; it became widely known through the March 2020 HBR article "Leading and Managing through Crisis". Being aporetic is an actively chosen dwelling at the question: where in this situation is there already clarity, where is there not, and what kind of action each aspect deserves? Snowden's own philosophical framing: "value in the journey, not just in the destination."

Confused — the *unintentional* counterpart of the same central domain. "I don't know what this is, so I'll act as I always do." The mind drops into automatic routine and loses the chance to notice that the situation might be something other than what it first appears to be. In Cynefin thinking, confused is a state to leave; aporetic is a state to stay in deliberately, for a moment.

Liminal areas and the catastrophic fold

Between the domains lie four liminal areas. In Snowden's own origin story he drew a green line that was open at the top but closed the boundary between Chaotic and Complex — that is, the liminal areas open into the other domains, but the Chaotic–Complex boundary is sealed. Particularly important are the Complex–Complicated liminal (where strategy and product development tend to live) and the catastrophic fold between Clear and Chaotic: if we treat "clear" things as self-evident for too long, we can drop straight into chaos. The catastrophic fold is borrowed from René Thom's catastrophe theory and describes a sudden transition — recovery requires a different path from the fall, not a gradual slide back.

The aporetic turn (introduced 2019, HBR publication 2020)

Snowden replaced the old "Disorder" box with an aporetic centre. The crucial difference: aporetic is not a fourth quadrant but a centre through which every situation passes. It is a deliberate dwelling before classification: what kinds of dimensions does this have, what kind of thinking does each dimension demand, where can I rely on routine and where not? Without that pause, reflex takes over: "this looks like X, so I'll do what I always do with X." Snowden often uses the *triple point* metaphor from physics for the aporetic centre: the point at which solid, liquid, and gas are simultaneously in equilibrium and one cannot yet say which phase the situation will settle into. Aporetic dwelling is therefore a tool that prevents leaders from sliding into the sedating certainty of routine — not a state one tries to leave but one to which one returns again and again.

Why this is useful

Cynefin does not tell you what to do — it tells you what kind of action the situation deserves. The most common mistake in management is applying Complicated tools (analysis, prediction) to Complex situations, where they produce a false sense of certainty. Another common mistake is to keep treating things as Clear when reality has already moved on.

Internal structure of the domains — Cynefin Frames

The five Cynefin domains are not internally uniform. Snowden has decomposed each one into its own micro-structure — healthy regions, warning zones, catastrophe zones and the transitions between them. Earlier these were presented as 3×3 matrices ("domain models"); in March 2025 Snowden replaced them with hexa-based **Cynefin Frames** in the St David's Day blog series (1–10 March 2025). The hex form is now canonical for Snowden, and it also enables *method substitution*: individual cells can be swapped for methods that fit the situation.

Each frame is a **diamond of nine hexagons** (1 + 2 + 3 + 2 + 1): one hex at the top, bordering **aporetic** (healthy but watchful), three hexes in the middle row at the heart of healthy operation, and one hex at the bottom bordering **confused**, where the risk of collapse is real. Two diagonal axes cross the diamond, with the frame's own dimensions at each axis (e.g. enforcement and response in the Clear frame). Colour logic: green at the centre, fading through olive and orange to red at the edges. Neighbouring domains appear as grey hexes around the diamond, and yellow arrows show the key transitions inside the frame and across domains.

As an example, the Clear frame (below): from the healthy *Stable Best Practice* centre a system can slide into the *Sycophant Zone* (everyone agrees with whatever the boss wants, weak-signal detection is eliminated) and from there into *Ossified Will Fail* and a catastrophic fold into Chaotic. The other route: by listening to the *The Cynics Care* cell, the system retains information that would otherwise be lost. All five frames (Clear, Complicated, Complex, Chaotic, plus their combination *mwg coffi cynefin* — the coffee-mug view of the whole framework) are opened up in **Appendix A** at the end of this document.

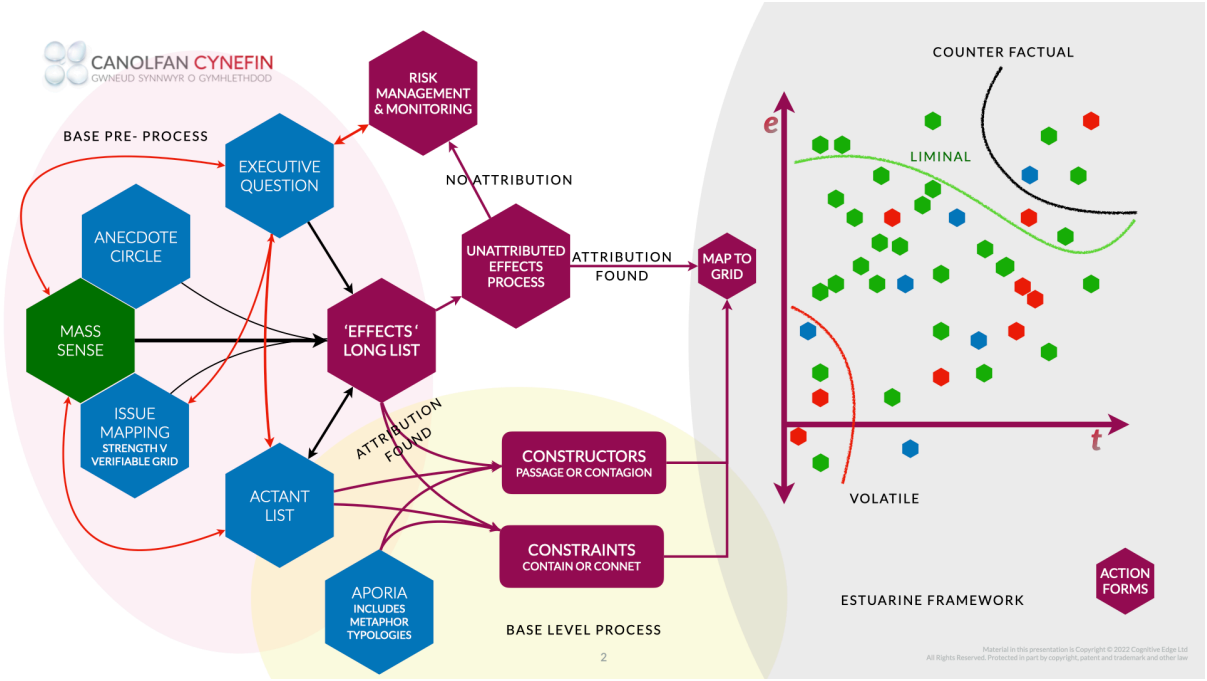


Figure: the Clear Frame, redrawn from Snowden's St David's 2025 series. The other four frames are in Appendix A.

Source: Cynefin Wiki https://cynefin.io/wiki/Cynefin (last modified 2023-04-16), Cynefin Domains https://cynefin.io/wiki/Cynefin_Domains (2022-08-03), Aporetic Turn https://cynefin.io/wiki/Aporetic_Turn. Snowden & Stanbridge, "The landscape of management" (E:CO Vol. 6, 2004). Cynefin Frames: thecynefin.co/st-davids-2025/ series (5 posts, 1–10 March 2025). Each frame is opened on its own page in Appendix A.

2. Estuarine Framework and Estuarine Mapping

Estuarine is Snowden's strategy and change-management approach for complex environments. It challenges fixed-target strategic planning by mapping what can be changed, what should be monitored, and where action is currently possible. An actant is anything that makes a difference in the system: a person, role, rule, habit, tool, constraint, process, institution, or other element that exerts influence. A small terminological note: the Estuarine framework refers to the static structure (the energy/time grid and the boundary lines drawn on it), while Estuarine mapping is the process by which actants are mapped onto that structure. The method is grounded in Alicia Juarrero's constraint theory and the constructor theory of David Deutsch and Chiara Marletto, and it embodies the principles of Vector Theory of Change.



Kuva: cynefin.io wiki · käytössä Dave Snowdenin luvalla.

The estuary metaphor — estuary, not delta

Snowden is explicit on this distinction: the metaphor is an estuary, not a delta. In a delta the flow branches outward toward the sea (one → many), whereas in an estuary fresh river water and salt seawater mix dynamically with the tide. Some elements in an estuary are stable like a granite cliff (only need rare checking), some shift daily like sandbanks, and some are visible or hidden depending on the tide — there are things you can do only at the turn of the tide. The energy of change arises in this rich, non-linear boundary zone.

The method also works with what Snowden calls the "thick present". The present is not a fleeting instant but a thick state filled with dispositions — shaped (but not determined) by the past and carrying connections to what the future is going to be.

Background principles

The Cynefin wiki lists five principles that the method is built on — useful to recognise when you start applying it in practice:

- Start by understanding where you are; travel with a sense of direction rather than abstract goals.
- Work with propensities and dispositions: keep the energy cost of desired things lower than that of undesired things.
- Initiate many micro-nudges, not one big project — both success and failure become sources of learning and opportunity.
- Decompose to the lowest coherent level of granularity, and create novelty through new connections.
- Identify what you can change, where you can monitor the impact, and how you can amplify or dampen it.

Five steps (as presented at the London masterclass)

The full wiki version of the process has more numbered steps, and the order and emphasis vary with facilitation — Snowden in London used a five-step simplification that travels well in client work.

- **1. Constraints, constructors, and actors —** list the relevant *actants* (everything that exerts influence, not only humans): *constraints* (in Snowden's definition, anything that shapes or influences a system — not merely a barrier; types include connecting / containing, enabling / governing), *constructors* (things that produce repeatable transformation — e.g. ritual, process, habit, role; transform via passage, contagion, or presence), and *actors* (intentional individuals, roles, identities, collectives). Cynefin Co publish typologies for both constraints and constructors — these are *facilitator brainstorming aids, not mandatory classifications*. The point is to surface perspectives and reveal missing actants.
- **2. Energy/Time grid —** two axes: *Energy cost of change* (y) × *Time to change* (x). The map is relative, not precise. More recent versions also include a negative-energy region — for things that consume energy just to be kept in place. Disagreement on placement is resolved by breaking the actant into smaller pieces (granularity).
- **3. Creating boundaries —** three negotiated lines on the map: *counterfactual border* (upper right: practically immovable on this energy and time horizon — Snowden notes this "counterfactual" is not the philosophical contrast between actual and imagined, but simply the boundary between what can and cannot be changed from the perspective of the present), *liminal line* (the team itself cannot move it, but can request permission from a higher level), and *volatile line* (lower left — a WARNING line, not low-hanging fruit: change that is too easy and too quick is read as a sign of volatility and a possible warning. Impactful actants in this zone are typically stabilised first — energy and time are added around them — before being acted on. Previously called *vulnerability*). The space between the lines is where strategic and operational action lives.
- **4. Multiple actions and types —** nine intervention types in three groups. **Vector:** *Compass Rose* (change the energy or time around the target, not the target itself), *Destroy* (remove

the actant), *Stabilise* (hold it in place where it is). **Signal:** *Conditional* (this action requires another change first), *Monitor* (observation — especially at the boundary lines; on the counterfactual side, "forward scouts"), *Trigger* (conditions are ready, initiate the change). **Communication:** *Research* (find out more before acting), *Request* (seek permission or cooperation, typically in the liminal area), *Interaction* (change the connections between actants — not the actants themselves).

- **5. Map onto Cynefin —** the interventions are clustered onto Cynefin domains and assembled into *portfolios* — not one grand strategy, but a set of micro-projects that can start tomorrow. In the Complex domain this means *parallel safe-to-fail probes*. The dispositional state is shifted in the desired direction step by step, not by planning a destination.

What the map shows — a possibility space

An Estuarine map does not tell you what you should do; it shows what can be done in this situation. Some actants are out of reach — too much energy, too long a horizon. Some can perhaps be acted on if permission is granted or conditions ease. Some can in fact be moved, and some change regardless of you (volatile). The map sketches the possibility space: where to look first for moves, what to leave visible even if untouched, and what to monitor because it may shift on its own.

Which of those possibilities you actually pursue is a separate, situation-dependent decision. The intervention does not follow automatically from the map's region — the same position can lead to a different move in a different context. The value of the map is that you don't waste effort on things out of reach, and you don't ignore things that move on their own.

How this challenges "strategic planning"

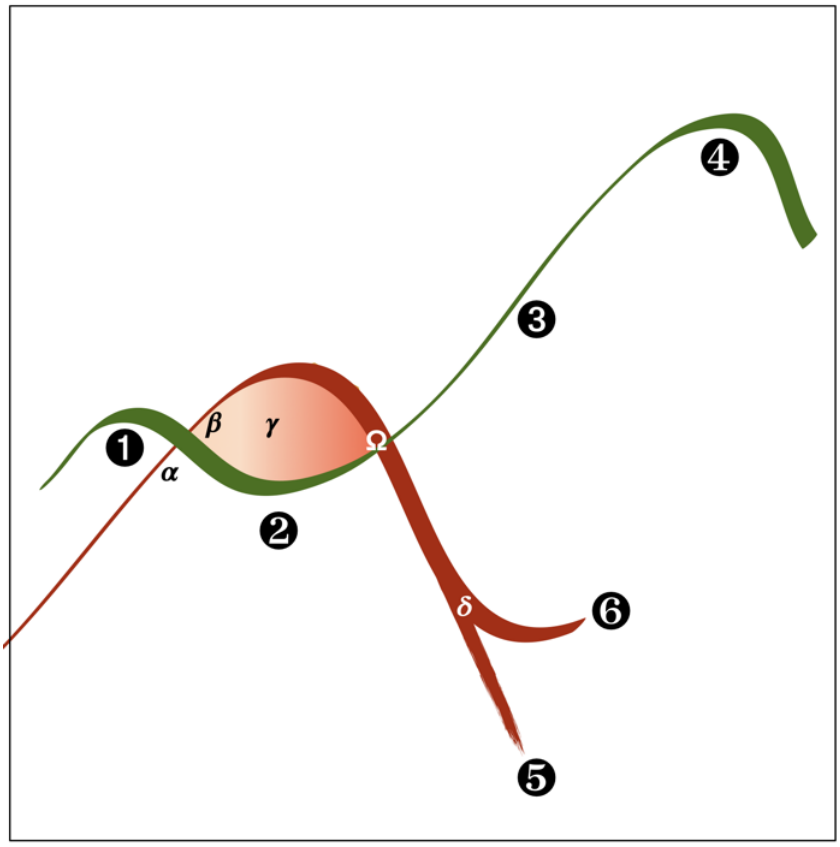
Traditional strategy assumes we can define a target state and plan a route to it. In a complex environment the target state is itself a moving object. Estuarine does not plan the journey but the terrain: shape the conditions so that useful paths become walkable and harmful ones disappear from the map.

> *"Manage propensities and dispositions so that the things you desire have a lower energy cost than the things you don't." — Cynefin Wiki, Estuarine framework (background principles)*

Sources: The Cynefin Co, "Estuarine Mapping Blog Summary", October 2023 (5-step process, intervention typology); Cynefin Wiki https://cynefin.io/wiki/Estuarine_framework (last modified 2025-03-28, intervention typology grouped Vector/Signal/Communication + actors as the third actant type). Theoretical underpinnings: Alicia Juarrero, Dynamics in Action (1999); David Deutsch & Chiara Marletto, constructor theory.

3. Flexuous Curves — the dynamics of ecosystems

Flexuous Curves is Snowden's framework for the dynamics of markets and ecosystems. It replaced the older "Apex Predator" label and brings together Apex Predator and Keystone thinking with Geoffrey Moore's Chasm, Clayton Christensen's disruptive innovation, and Charles Handy's "second curve". The Greek letters are Snowden's own markers for transition points — they are not Holling's adaptive-cycle terminology, despite some surface similarity.



Kuva: cynefin.io wiki · käytössä Dave Snowdenin luvalla.

Six points on the curve (1–6)

- **1** — something novel emerges and gains traction among those frustrated by the dominant paradigm or seeking functionality the current affordance landscape does not provide.
- **2** — the initial enthusiasm is hard to maintain; risk-takers are fewer than innovators would like; scaling stalls. For products this is Moore's "chasm" — the next tier of buyers wants more proof.
- **3** — the novel idea becomes orthodoxy: mass adoption, even though it may already be compromised. Everyone is talking about it, the specialist language spreads.
- **4** — the novelty is wearing off and the idea is approaching the end of its life cycle. Limits of scale and contextual fit start to show. Progressive circles grow frustrated, but it is still orthodoxy.
- **5** — oblivion. A fond memory at best.

- **6 —** sustainability — you live to fight another day, but you'll need a significant disturbance in the ecosystem to create a new opportunity.

Five states / transition points (Greek letters)

- **α (alpha point) —** the actor actively seeks to trigger the shift into liminal by legitimising novelty. One way: *exaptive innovation* — radical repurposing in which something you are already good at takes on a new role.
- **β (beta point) —** you have to be astute to see that things have changed; the energy cost of experimenting with novelty is still low at this stage.
- **γ (gamma phase) —** "last chance saloon" for the dominant actor, past the peak and on the way down. Increasingly clear that the current path is no longer sustainable. New entrants and "dangerous" ideas are beginning to attract attention. Action is still possible, but the cost is high.
- **Ω (omega point) —** the goal for the dominant actor: resources are transferred from the old to the new, the curve turns back upward. If you don't act before gamma, it can be too late and you fall into free-fall.
- **δ (delta moment) —** a last point of recovery for those who missed omega. Some arrest the failure and recover, but never with the same dominance. From this two new phases enter the cycle.

Strategies — getting across the chasm

The wiki distinguishes three strategies for getting a novel idea across Moore's chasm and from alpha to omega on an upward trajectory:

- **Symbiotic —** the novel capability is made an apparently insignificant addition to the established practice that carries it across the chasm. The host is positively engaged because it benefits from the novel idea itself.
- **Infection —** as in symbiotic, but the host has little understanding or intention regarding the novel idea. The novel idea uses the host to cross the chasm and gain its own scale — the host may benefit unwittingly or end up on a downward curve.
- **Retro-virus —** a variant of infection: something that rewrites the host's DNA.

Role metaphors in the ecosystem

The wiki lists five (open-ended) role metaphors an actor can take through the cycle. Snowden uses ecological metaphors deliberately — markets behave as ecosystems, not machines.

- **Apex Predator —** the dominant player. Available to those who move and succeed across alpha to gamma. E.g. IBM in the mainframe era, Microsoft in the 1990s.
- **Keystone —** a critical species in an ecological shift; sometimes a more sustainable role than apex predator across periods of change.
- **Hyena —** feeding off what the apex predator leaves behind. E.g. certification schemes.

- **Connective Agency —** becoming an apex predator in your own right by disintermediation — e.g. social media giants, Amazon.
- **Waste Processors —** still being developed by Snowden — actors who process the by-products of the ecosystem.

Competence-induced failure

Snowden borrows from Clayton Christensen the central explanation for why dominant players fall: not from incompetence, but from being too competent in the old paradigm. The flip side of competence is competence-induced failure: the dominant actor keeps doing what made it successful, even after the ecosystem has changed.

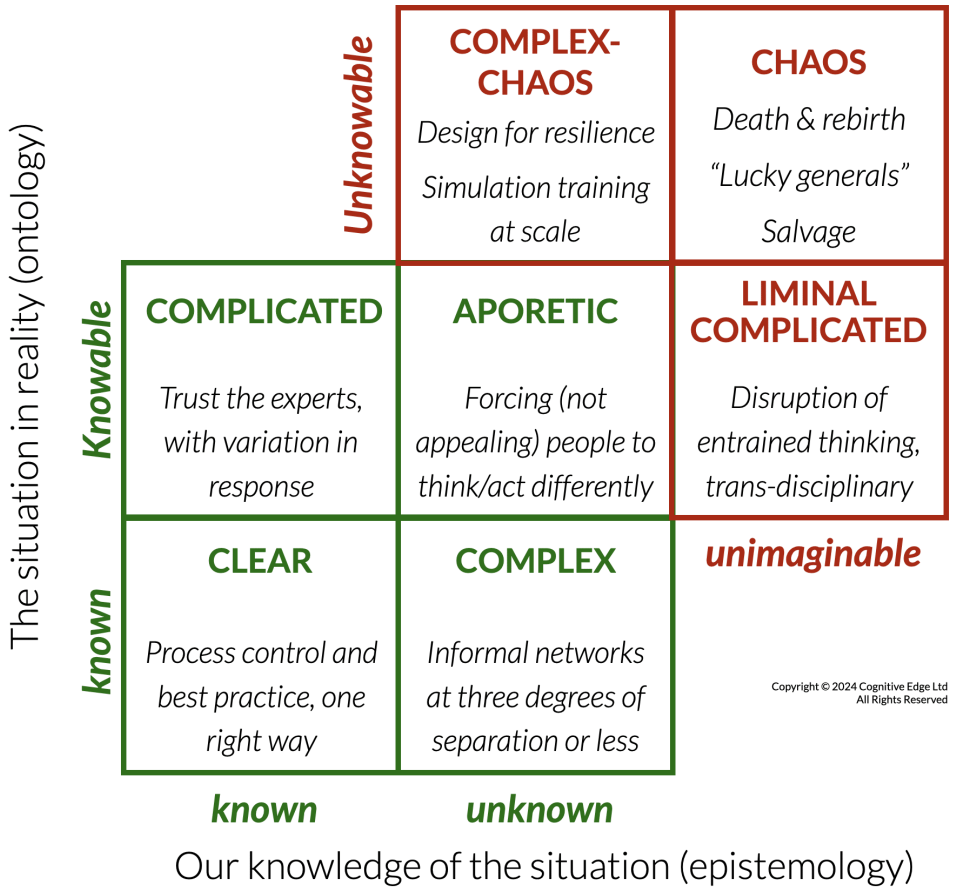
Exaptation — the logic of ecosystems

In ecological terminology, exaptation refers to an existing trait (feathers, a closed life cycle, a corporate capability) coming to serve a new purpose. Snowden's claim is that innovations rarely emerge from nothing — most are the re-wiring of existing parts. This is the ecosystem's own logic, not "disruption" from outside. The wiki's example: IBM repurposed its punch-card capability to give itself a first-mover advantage in a new field whose full potential was not yet known.

Source: Cynefin Wiki https://cynefin.io/wiki/Flexuous_curves (last modified 2024-04-29). Reference works: Charles Handy, The Second Curve (2016); Geoffrey Moore, Crossing the Chasm (1991); Clayton Christensen, disruptive innovation. Snowden blogs: "Flexuosity Untangled", "The Ystwyth Curve Continued", "Flexuous focus" (2020); "Flexuous flight" (2021).

4. Uncertainty Matrices — types of uncertainty

The Uncertainty Matrix places Cynefin's domains on a 3×3 grid formed by two axes. The matrix maps seven named Cynefin-related regions onto the 3×3 space formed by ontology and epistemology. Two positions are not treated as active named regions: one because "unknowable ontology with known epistemology" is logically unstable, and the other because "unimaginable" is the extreme of the epistemology axis rather than a domain in its own right.



Kuva: cynefin.io wiki · käytössä Dave Snowdenin luvalla.

Two axes

- **Y-axis: the situation in reality (ontology) —** bottom to top: *known* (reality is clearly known) → *Knowable* (can in principle be understood, but it takes work) → *Unknowable* (intrinsically vague, non-traceable, emergent).
- **X-axis: our knowledge of the situation (epistemology) —** left to right: *known* (we know enough about the situation to act) → *unknown* (our knowledge is incomplete or not consistently available) → *unimaginable* (the far-right column: what is outside our current capacity even to conceive). Unimaginable is an axis condition that names the far end of epistemology — not a separate cell of the matrix.

Seven named regions

There are not nine but seven active cells in the matrix; two cells are left empty or marked as logically impossible.

- **CLEAR** (known ontology, known epistemology, lower left). Clear reality, sufficient knowledge. Action: *process control and best practice, one right way*.
- **COMPLEX** (known ontology, unknown epistemology, lower middle). The nature of the system is recognisable as complex, but its behaviour cannot be predicted from available knowledge. Patterns are sensed through interaction and retrospect, not derived in advance. Action: *informal networks at three degrees of separation or less* — informal networks that cannot be designed but must be allowed to emerge.
- **COMPLICATED** (Knowable ontology, known epistemology, middle row left). Reality requires investigation, but we have enough knowledge to start. Action: *trust the experts, with variation in response* — experts are trusted, but answers vary by situation.
- **APORETIC** (Knowable ontology, epistemology in between, middle row centre). Cynefin's central domain. Action: *forcing (not appealing) people to think/act differently* — people are pushed, not coaxed, into thinking differently. The aporetic centre is not a comfort zone; staying there requires deliberate facilitation.
- **LIMINAL COMPLICATED** (Knowable ontology, unimaginable epistemology, middle row right). The liminal area at the edge of Complicated — the situation can in principle be analysed, but in-domain expertise is not enough. Action: *disruption of entrained thinking, trans-disciplinary* — disrupt routine thinking and bring in other perspectives.
- **COMPLEX-CHAOS** (Unknowable ontology, unknown epistemology, middle column). Reality itself is emergent and non-traceable. Action: *design for resilience, simulation training at scale* — not prediction but resilience design and simulation training before the situation hits.
- **CHAOS** (Unknowable ontology, unimaginable epistemology, far right). Full chaos, control is lost. Action: *death & rebirth, "lucky generals", salvage* — either the system collapses and is rebuilt, or action is led by those who instinctively did the right thing and survived; afterwards we salvage what we can.

Colour coding

Green cells (CLEAR, COMPLEX, COMPLICATED, APORETIC) are states in which an organisation has the conditions to act constructively. Red regions (COMPLEX-CHAOS, CHAOS, and LIMINAL COMPLICATED) are states that require crisis action, trans-disciplinary thinking, or whose existence should be prevented in advance through resilience design.

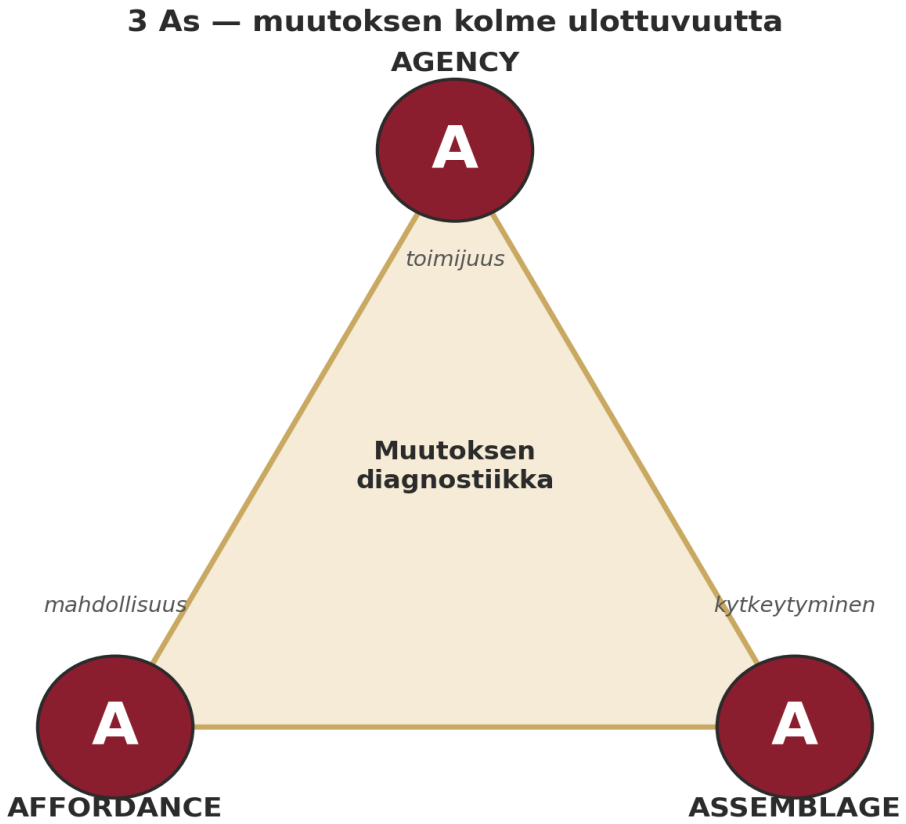
The core insight

The matrix makes visible why the same approach does not fit every situation. Ontologically Knowable situations (Complicated, Aporetic, Liminal Complicated) benefit from knowledge and analysis — increasing epistemology shifts the situation to the left. Ontologically Unknowable situations (Complex-Chaos, Chaos) cannot be solved with more data; what is needed there is resilience and experimental intervention. The most common management mistake is applying analytics to Unknowable situations.

Source: Cynefin Wiki https://cynefin.io/wiki/Uncertainty_matrices; Cognitive Edge Ltd Uncertainty Matrices diagram (© 2024); thecynefin.co "Uncertainty Matrices" blog series 2022–2023.

5. 3 As — Agency, Affordance, Assemblage

3 As is a diagnostic framework for change work. It replaces the individualist "change behaviour" framing with an ecosystem view. Before you try to change action, ask three questions.



The three components

Agency — the capacity to act. Who and what has agency? Snowden extends this to non-human actors as well: an algorithm, a structure, a norm can be an "actor" in its own right.

Affordance — what the environment makes possible (the term comes from James J. Gibson's ecological psychology). What does the environment offer for action? A handle affords pulling, stairs afford climbing, a Teams chat affords real-time conversation. Affordances are always relative to the actor — a child and an adult find different affordances in the same room. Snowden's usage is broader and more ecological than the design-literature reading of "affordance as signified function".

Assemblage — the connectedness (Gilles Deleuze, Manuel DeLanda: agencement). A heterogeneous network of human and non-human parts that together enable or constrain action. A corporate culture is an assemblage: people, spaces, habits, tools, histories — and the actor is connected into this whole, not standing outside it.

Why Assemblage is critical

A large share of what we call "people's decisions" is not independent thinking but connectedness. Estimates vary, but behavioural research on social identity, group polarisation, and collective narrative suggests that a large share of daily positions, voting choices, and opinions repeats the line of the group the person belongs to: a movement, a sports team, a cultural identity, a profession, a family circle. People do not, as a rule, think the matter through alone and decide — they recognise what "we" would say and say it.

This helps explain why facts often fail to change the mind of someone whose position is strongly bound to an assemblage. The facts are not received merely as information; they may be experienced as a threat to belonging. Contradictory facts are not a knowledge update but an identity attack. Accepting them would require unbinding the belonging. The same logic blocks debates that try to show someone their favourite party or team got it wrong: the defensive reaction is not about the matter, it's about the belonging.

Assemblages are influenced through the environment, not by direct messaging. You rarely unbind a connection by direct argument from outside any more than you can tell a person "stop supporting your favourite team." Intervention targets the conditions — tools, rhythms, group compositions, reward structures, language, physical spaces — so that the connection unwinds on its own when it is no longer being maintained. This is long-term work and close to Wayshaping (Chapter 14): shape the paths, not the direction of traffic.

Use in change work

The order of the questions matters. First: do people have the agency to do what is being asked? If not, coaching or coercion is ineffective. Second: does the environment provide the necessary affordances? If software, space, or calendar do not enable the action, behaviour change is unlikely. Only third do we look at the assemblage as a whole — how do people connect into a wider network, and what is keeping the present state in place?

Connection to other frameworks

3 As is the diagnostic foundation of the Wayshaping framework (Chapter 14). Together with the Estuarine map, it gives both the structure underlying behaviour and the vectors for intervention.

Source: Cynefin Wiki, thecynefin.co 2022–2024. Theoretical underpinnings: James J. Gibson, The Ecological Approach to Visual Perception (1979); Gilles Deleuze & Félix Guattari, A Thousand Plateaus (1980); Manuel DeLanda, A New Philosophy of Society (2006).

6. ASHEN — five forms of knowledge

ASHEN is Snowden's original knowledge-management framework from his IBM Institute of Knowledge Management days (early 2000s). It separates five forms of knowledge and asks of each: how is it transferred?



Five forms of knowing

- **A — Artifacts** — documents, code, manuals, databases, recorded lectures. The object itself can be transferred, but the knowledge needed to interpret and use it rarely transfers with it.
- **S — Skills** — things that can be taught and tested. Transferable through training. E.g. SQL queries, replacing a zip, guiding a simple customer contact.
- **H — Habits** (formerly Heuristics; now also encompassing associated rituals) — habits, routines, rules of thumb, and recurring practices that reduce the energy cost of knowledge and action. Transferable only through mentoring and working alongside a colleague.
- **E — Experience** — tacit knowledge bound to lived experience. Transferable through vicarious experience, stories, and sense-making processes.
- **N — Natural talent** — innate aptitude. Not transferable — must be recruited or identified.

The core insight

Organisations typically invest only in A and S, because they are the easiest to transfer. But the bulk of real working capability lives in H and E — and when an experienced person leaves, the knowledge held there leaves with them. ASHEN reminds us: mentoring and narrative sense-making are as important as documentation.

Practical application — recruitment and knowledge transfer

When recruiting, ask which level you are filling: at the A+S level, training is inexpensive; an E-level person requires either years of pairing or a direct hire. At the N level you are looking for innate fit, which it is futile to try to train.

Practical application — identifying Estuarine actants

Snowden's AIMS framework (Chapter 7) considers what can be influenced through four lenses: Actants, Interactions, Monitors, and Scaffolding. When identifying actants for Estuarine mapping, Estuarine's actant typology — constraints, constructors, and actors — can be used as a practical checklist. ASHEN can then be used as an additional lens for identifying what forms of knowledge are present and where they sit in the system. The first phase of Estuarine mapping is an actant inventory.

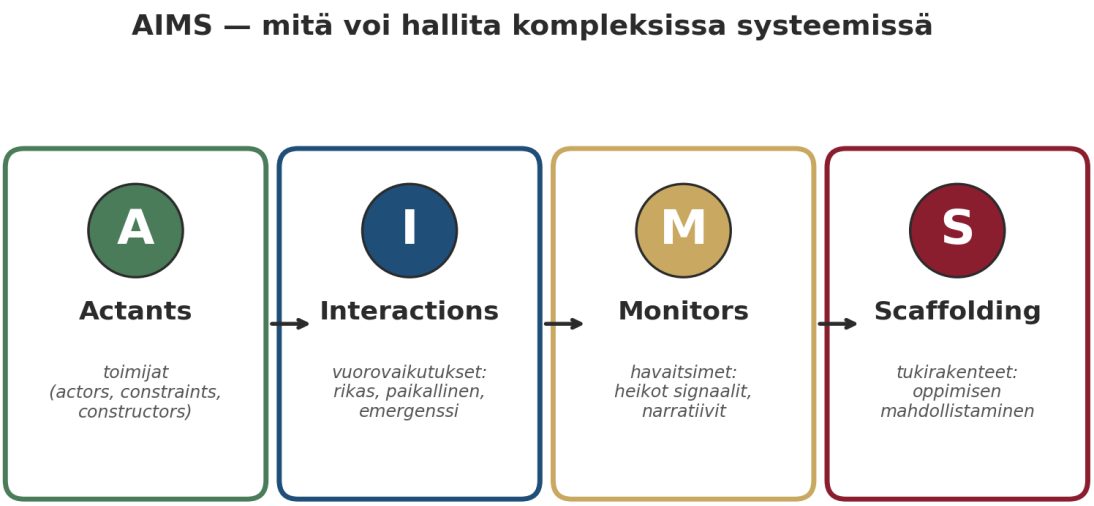
ASHEN works as an effective lens for this inventory: when mapping what is manageable, walk through the five ASHEN forms and ask of each which actant type it is. Artifacts → often Constructors (processes, templates, patterns) or Scaffolding (documents that hold knowledge in place). Skills → Actors (who can do this) or Constructors (training programmes). Habits → Constructors ("how we do it" patterns) and implicit Constraints. Experience → Actors (whose narrative the organisation lives by) and Interactions (stories arise and travel only in interaction). Natural talent → Actors, and rarely transferable: a target for recruitment.

The combination gives a concrete handle: ASHEN tells you what knowing exists, the actants typology tells you where you can act on it. For instance, H and E cannot be captured by an Artifacts process — they transfer only through Interactions (pairing, master-apprentice, sense-making sessions). This protects the organisation from the typical mistake of trying to convert E-level knowledge into a wiki and then wondering why it didn't work.

Source: Dave Snowden's writings from his IBM IKM era circa 2000–2002; the Estuarine wiki (cynefin.io, 2025-03-28) refers to the "ASHEN framework, standing for Artifacts, Skills, Habits, Experience, and Natural talent". Actants typology: Dave Snowden, Masterclass London 2026 (AIMS framework).

7. AIMS — what is manageable in a complex system

AIMS is a framework for designing interventions in complex social systems. Snowden's basic claim: in a complex environment you cannot manage the outcome, but you can manage the conditions under which the outcome emerges.



Ei tavoitteita — olosuhteita joissa uusi voi emergoida

Four components

- **A — Actants** — elements that influence the system's behaviour, not only humans (includes roles, constraints, structures, processes). Use Estuarine's three actant types as a checklist: *constraints / constructors / actors* — constructors in particular are easy to miss.
- **I — Interactions** — the interactions between actants. *Complexity emerges from interactions*, not from individual actants. Intervention therefore often targets the structure of interactions, not the individual actant.
- **M — Monitors** — the mechanisms by which change is detected. *Not metrics* in the conventional sense, but weak signals, narrative, and SenseMaker-style micro-narrative material.
- **S — Scaffolding** — structures that enable learning and change without forcing an outcome. Support structures that can be dismantled once the system has learned.

Connection to the Estuarine method

AIMS can be used as an operational layer through which an Estuarine map becomes action. Estuarine tells you where on the map you are and what is worth doing — AIMS tells you how to do it: with whom, through which interactions, monitoring what, with which scaffolding put in place.

Not goals but conditions

AIMS thinking turns goal-driven management on its head. Instead of defining the outcome and demanding it, we define the conditions under which the desired outcome is likely to emerge. Predicting the outcome in a complex system is illusion; shaping the conditions is genuinely manageable.

Source: Cynefin Wiki https://cynefin.io/wiki/Aims (last modified 2025-04-28). Notes from London Masterclass Day 1.

8. WRASSE — weaving risk and strategy

WRASSE (formerly WRAS, also written WRAS(SE)) — W-R-A-S = Weaving Risk And Strategy — is Snowden's framework, still in development, that integrates strategy and risk management into a single fabric. The meaning of the closing SE letters is not yet settled (Snowden is trying different formulations), so we do not fix them here. The model is in public development through 2025–2026; no final version has been released. Because WRASSE is still in public development, this chapter should be read as a current working interpretation, not as a settled final method.

WRASSE as part of a trilogy

At the London masterclass 2026 Snowden positions WRASSE as part of a three-part whole:

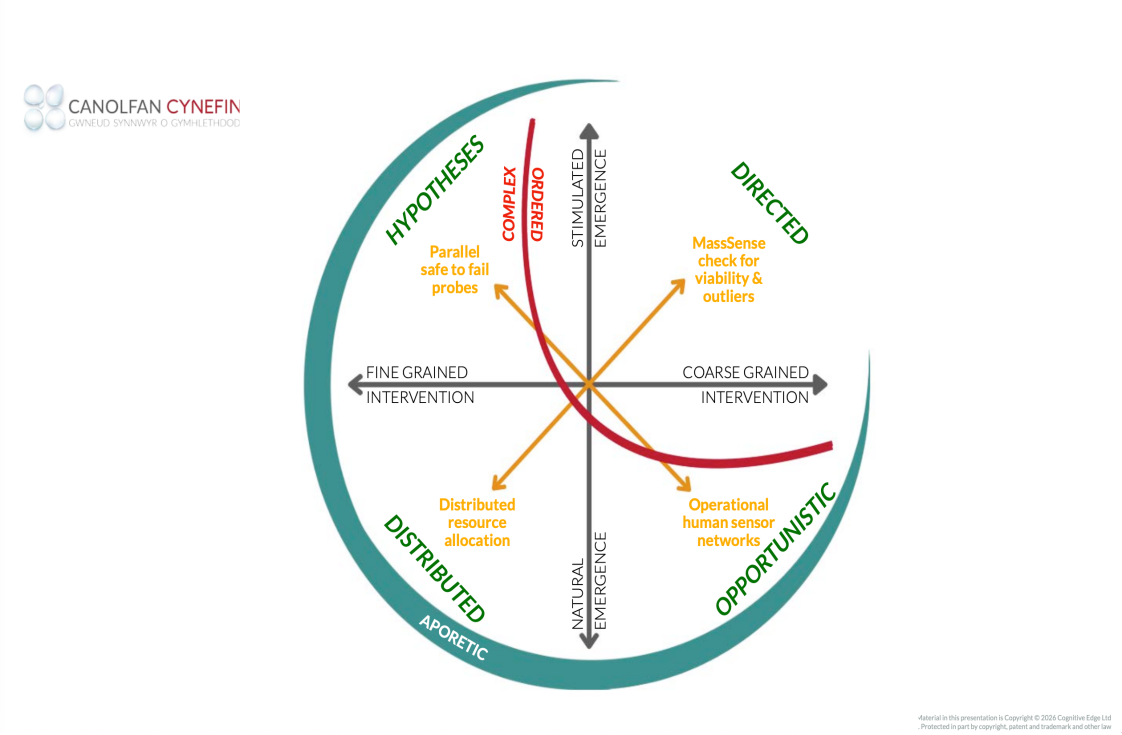
- **Purpose — Perdurability (the Why):** the system's capacity to persist through time, not via stasis but via adaptive coherence. Includes the robustness, resilience, and antifragility dimensions. (Chapter 13.)
- **Strategy — WRASSE (the What):** a portfolio of moves through which the system navigates complexity. The 2x2 diagram of this chapter is the heart of that portfolio.
- **Mechanism — Wayshaping (the How):** shaping the substrate of the system so that WRASSE moves emerge naturally. (Chapter 14.)

Metaphor: a wrasse is a reef fish that does not merely swim in the ecosystem but cleans and maintains it — and benefits itself from this maintenance work. In this document's interpretation, Wayshaping plays a similar substrate-maintenance role: it shapes the conditions in which strategic moves can emerge.

The core principle

In the traditional model strategy is done first and risk management is added "on top". Snowden's critique: this produces split thinking in which strategy is wishful thinking and risk is paralysis. WRASSE proposes that they are two sides of the same fabric: both are expressions of how the system relates to uncertainty.

The 2x2 diagram: four modes of action



Axes of the diagram: the vertical is the nature of emergence (top STIMULATED EMERGENCE — deliberately initiated; bottom NATURAL EMERGENCE — arising of itself). The horizontal is the granularity of the intervention (left FINE GRAINED — small, parallel safe-to-fail; right COARSE GRAINED — broader, more sweeping). The four quadrants describe strategy-risk domains: each implies a different relationship between intervention, emergence, and risk mitigation:

- **HYPOTHESES (top-left, stimulated + fine grained):** parallel safe-to-fail probes. Small, parallel experiments suited to complex situations.
- **DIRECTED (top-right, stimulated + coarse grained):** MassSense — checking viability and outliers from observations of a large group.
- **DISTRIBUTED (bottom-left, natural + fine grained):** distributed resource allocation — decentralised allocation to actors close to the context.
- **OPPORTUNISTIC (bottom-right, natural + coarse grained):** operational human sensor networks — networks of people picking up signals from the environment.

The red COMPLEX → ORDERED arrow runs from the bottom-left to the top-left quadrant: it depicts the movement from complexity toward order through the combined effect of interventions.

APORETIC, marked along the lower arc of the ring, ties WRASSE to Snowden's aporia thesis (see chapters 2 and 4): the portfolio works when the decision-maker can hold unresolvedness, instead of forcing closure.

This diagram repays repeated study; a few sentences cannot fully unpack it, and this chapter's explanation is deliberately compact.

Methodological building blocks

Alongside the 2x2 diagram, four recurring building blocks appear in Snowden's writing that support applying WRASSE in client work:

- Cynefin-domain-specific strategy/risk pairs: each domain calls for a different relationship between strategy and risk.
- Estuarine map of the shared possibility space of strategy and risk.
- Applying Vector Theory of Change: not a destination but direction vectors.
- SenseMaker material for identifying weak signals — both as strategic opportunities and as early warnings of risk.

Status (24 April 2026)

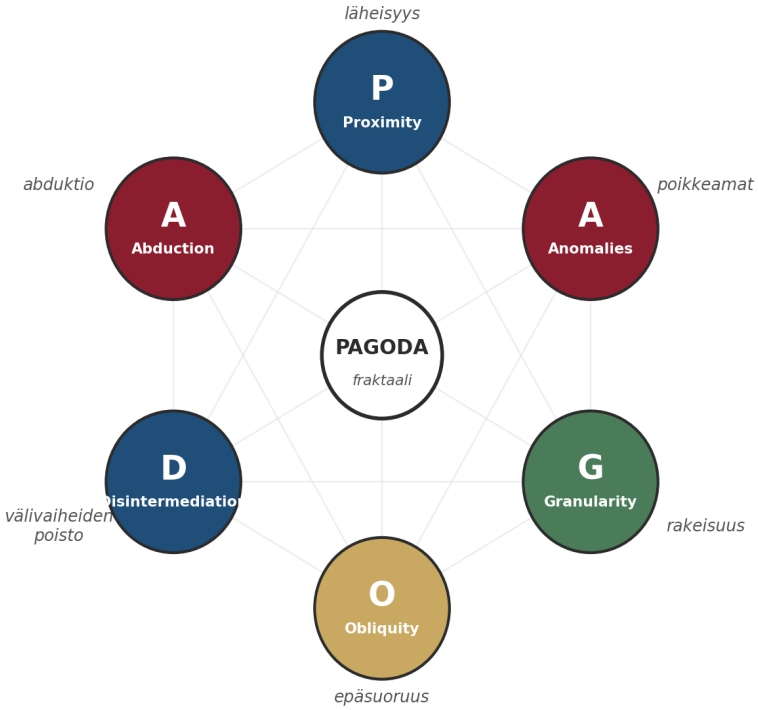
Snowden has noted repeatedly through 2024–2026 that the method is in development. This is worth flagging when referring to it in client work: it is a promising framework whose operational tooling continues to be refined.

Source: Dave Snowden, London Masterclass 2026 (slides 21, 23–25); thecynefin.co "Weaving Risk and Strategy" blog series 2024–2026.

9. PAGODA — qualities of a complex system

PAGODA is a framework that describes the central qualities and operating principles of a complex system. It builds on Paul Cilliers's pioneering complexity philosophy. The pagoda metaphor is chosen to illustrate the framework's fractal nature: each part shares the qualities of the whole — a property inherent to complex adaptive systems (CAS).

PAGODA — kompleksin systeemin kuusi fraktaalista ominaispiirrettä



Six components

- **P — Proximity (in time and place).** Emergence in complex systems arises from rich, local interactions between actants (see AIMS). "Local" is essential here: contextual closeness in time and place. Change in a complex adaptive system happens through small, context-bound micro-interventions — what works here and now does not necessarily generalise.
- **A — Anomalies (create them).** Classic example: radiologists and the gorilla. Detecting anomalies is not passive — they are deliberately surfaced to push people into more active thinking, to notice what is not directly in front of them. The Cynefin way: create a context in which learning can happen (e.g. descriptive self-awareness), rather than telling people what to think or do.
- **G — Granularity.** Finding the right level of granularity is the craft of facilitating complexity. Too fine: patterns blur. Too coarse: everything abstracts away and alternative paths disappear. When the "Goldilocks moment" is found, the elements of a system can come apart and recombine in new ways while staying alive and responsive. This connects to deterritorialisation in Assemblage theory.

- **O — Obliquity.** John Kay's idea (book "Obliquity"): complex, hard-to-grip problems are best approached indirectly — by working on adjacent questions. Oblique approaches require less energy and time, allow novelty to emerge, and shift implementation into a more-than-linear, less mechanistic mode. Closely related to Estuarine.
- **D — Disintermediation.** Removing layers of interpretation — direct experiences are conveyed to decision-makers instead of reports, so that decision-making is genuinely distributed. Connects to Miranda Fricker's epistemic justice and is at the heart of the SenseMaker approach.
- **A — Abduction / Abstraction.** Building on Max Boisot's "I space" work: abstraction enables abductive insight — novelty arising through unexpected connections. Abduction is "the logic of hunches": a conclusion drawn from partial information, aware that the information is incomplete. In Bateson's sense: "difference that makes a difference" — insight across differences in larger systemic contexts.

Fractal nature

The PAGODA name points to the fractal nature of decision-making and action in complex adaptive systems — the same pattern repeats at different scales. Each PAGODA component is a small whole and at the same time contains all the other components. The granularity question requires proximity and anomaly detection. Abduction requires disintermediation. This cannot be resolved as a linear process.

Snowden's own words (16 Sept 2024): "You don't want homogenised context-free interventions; every situation or aspect of a system has a different starting place. A principle here is never to aggregate an aggregate but always use the same, finely-grained source data assembled at the level of people's competence to act." This is why PAGODA connects to Snowden's narrative work and the Vector Theory of Change: more stories like this, fewer like that.

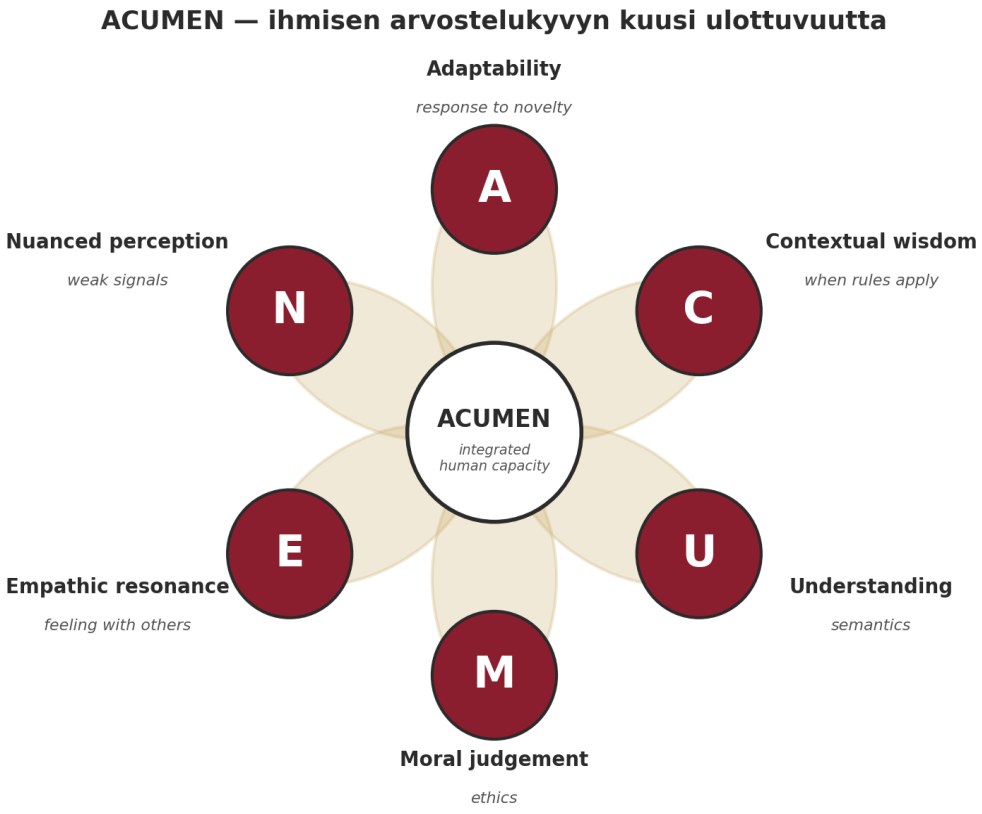
Using PAGODA in working with complexity

PAGODA works on two levels. First, diagnostically — when looking at a system, we can ask: do we have proximity? Are we seeing anomalies? Is granularity at the right level? Is disintermediation in place? And so on. The absence of these qualities tells us directly why a complex change process is stuck. Second, as a set of design principles for interventions — when building interventions, PAGODA's qualities serve as a checklist that we are not repeating traditional abstract, top-down models but respecting the nature of the complex system.

Source: Cynefin Wiki PAGODA https://cynefin.io/wiki/PAGODA and Snowden's PAGODA-related blog posts. Built on Paul Cilliers's complexity philosophy.

10. ACUMEN — six dimensions of human judgment

ACUMEN is a framework for human judgment that distinguishes human cognition from AI performance. Snowden uses it when arguing that AI complements but does not replace human judgment in complex situations. From the Canolfan Cynefin card set:



Six components

- **A — Adaptability** — the capacity to respond to novelty in a new context.
- **C — Contextual wisdom** — knowing when rules apply and when they don't.
- **U — Understanding** — deep understanding (semantics). Not just data handling but grasping meaning.
- **M — Moral judgement** — ethics.
- **E — Empathic resonance** — feeling with others.
- **N — Nuanced perception** — picking up weak signals; subtlety of perception.

A counterweight to pattern matching

Current LLMs are very good at pattern matching, but ACUMEN sits at a different level of abstraction. Adaptability requires being in a new situation, not a history of similar ones. Moral judgement requires moral responsibility, which cannot be outsourced. Empathic resonance is embodied, not textual.

> *ACUMEN is not primarily a list of AI limitations; it is a description of what is meant here by human judgment — something that is not reducible to statistical pattern matching.*

"Inciting" — provoking the use of acumen in the age of automation

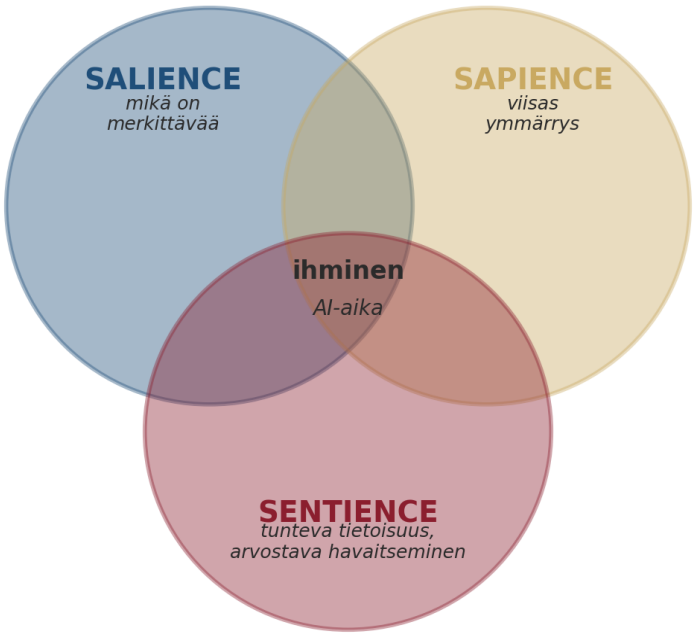
In 2026 Snowden takes the argument a step deeper in his "Acumen Incited" blog series. The central question is no longer "how do you use acumen?" but "how do you incite people to use and develop these innate capacities as automation grows around them?" The approach connects to Wayshaping (Chapter 14): not directives, but shaping the substrate so that acumen has space to activate. Snowden also stresses that acumen is not just an individual quality — it is collectively executable and is bound up with empathy, which is "proximity-dependent, embodied, multi-sensory" and therefore not reproducible by an algorithm. Network intelligence has to be engendered: this means creating the substrate, enabling connection, and inciting the network's members to action.

Source: Dave Snowden, "ACUMEN revisited" (thecynefin.co, 2024) and "Acumen Incited" 1/2 + 2/2 (thecynefin.co, March 2026); Canolfan Cynefin card set.

11. The Cognitive Triad (3S) — human cognition in the age of AI

The Cognitive Triad is Snowden's most recent (February 2026) framework for human cognition. Three components — salience, sapience, sentience — form a triangle that does not reduce to AI performance.

Cognitive Triad (3S) — ihmisen kognition kolmio AI-aikakaudella



Salience: AI voi auttaa • Sapience: syvä ymmärrys • Sentience: vain ihminen

The three S's

Salience — what is meaningful in this context. Directing attention well: what deserves focus, what is noise. AI can partly help here (statistical weak signals, anomaly detection).

Sapience — wisdom in a broad sense. Integrating knowledge and experience into judgment. Deep understanding at the level of meaning, seeing connections across fields.

Sentience — felt consciousness — the capacity to experience that something matters. Embodied, affective knowing. Meaning is experienced: good/bad, safe/dangerous, pain/relief. This is the ground of judgment — the valence that anchors all other meaning.

As described in Canolfan Cynefin's longer formulations

Salience: "the capacity to select and focus attention (foreground vs. background). What grabs attention, what warrants focus amid overwhelming environmental complexity."

Sapience: "the capacity to make sense of what is happening. Building models, inferring relationships, predicting outcomes, planning actions."

Sentience: "the capacity to feel what is happening as mattering. Valence and urgency — good/bad, safe/danger, pain/relief — the intrinsic metric that grounds all meaning." A simple example: AI may detect that a message is statistically unusual; a human may feel that something is wrong before being able to explain why. That felt significance is part of what this chapter calls sentience.

The core claim for the AI era

Snowden's claim: salience can be partly outsourced to AI; sapience only through trained human thought; sentience only through embodied lived experience. The risk in current AI discourse is reducing the latter two to the first — imagining that statistical simulation of meaning is enough.

Internal interconditioning of the triad — the three S's are not independent

Snowden's February 2026 piece "Twilight's Last Gleaming" introduces a key refinement: the three S's are not separate boxes but condition each other. In Snowden's own words: "Salience without sapience is reactivity; sapience without sentience is sophisticated calculation untethered from any felt stake; and sentience without salience and sapience is feeling without the capacity to act wisely on what is felt." Mere attention without understanding is reaction; mere understanding without feeling is calculation untethered from any stake; mere feeling without the others is feeling without the capacity to act on it. Judgment requires all three together.

Snowden also sharpens the etymologies: salience comes from a root meaning "leaping or springing up" — the capacity to have the relevant thing spring forward before classification has been established. Sentience (OED): "the capacity to be affected, to have an inside, to care about outcomes in a way that is not computational" — a felt consciousness with an inside, not a computational response.

Connection to ACUMEN

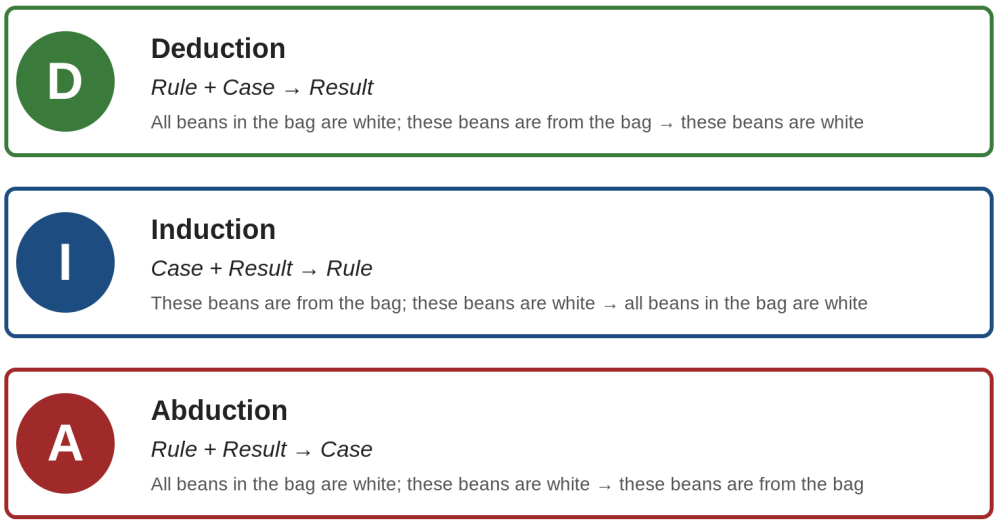
3S and ACUMEN are sister frameworks. ACUMEN names six components of judgment; 3S names three levels of cognition. In practice the ACUMEN components manifest at different levels of the triangle.

Source: Dave Snowden's blog at thecynefin.co "Twilight's Last Gleaming" series, February 2026; Canolfan Cynefin card set. Referenced at the London Masterclass 2026.

12. Abduction vs. induction and deduction

The three forms of inference — induction, deduction, abduction — are not equivalents but serve different situations. The core of Snowden's Cynefin reading: abduction is the primary form of reasoning for complex systems.

Deduction / induction / abduction — the three forms of inference (Peirce, bag-of-beans)



Same three statements, different roles. Abduction = "best explanation", the only source of new ideas.

Three traditions

Charles S. Peirce (1903). Abduction = hypothesis formation. "The surprising fact C is observed; but if A were true, C would be a matter of course; hence there is reason to suspect that A is true." Peirce distinguished abduction from deduction (certain inference) and induction (generalisation from observation).

Gregory Bateson. Abduction is the perception of structural similarity between two different domains ("lateral thinking"). Metaphor and poetry are abductive: in them one structure illuminates another.

Cynefin reading. Abduction is the primary form of reasoning for complex systems because: induction assumes a stability that is missing; deduction assumes rules that no longer hold. Abduction is the basis of safe-to-fail probes in the Complex domain.

Peirce's classic bean example

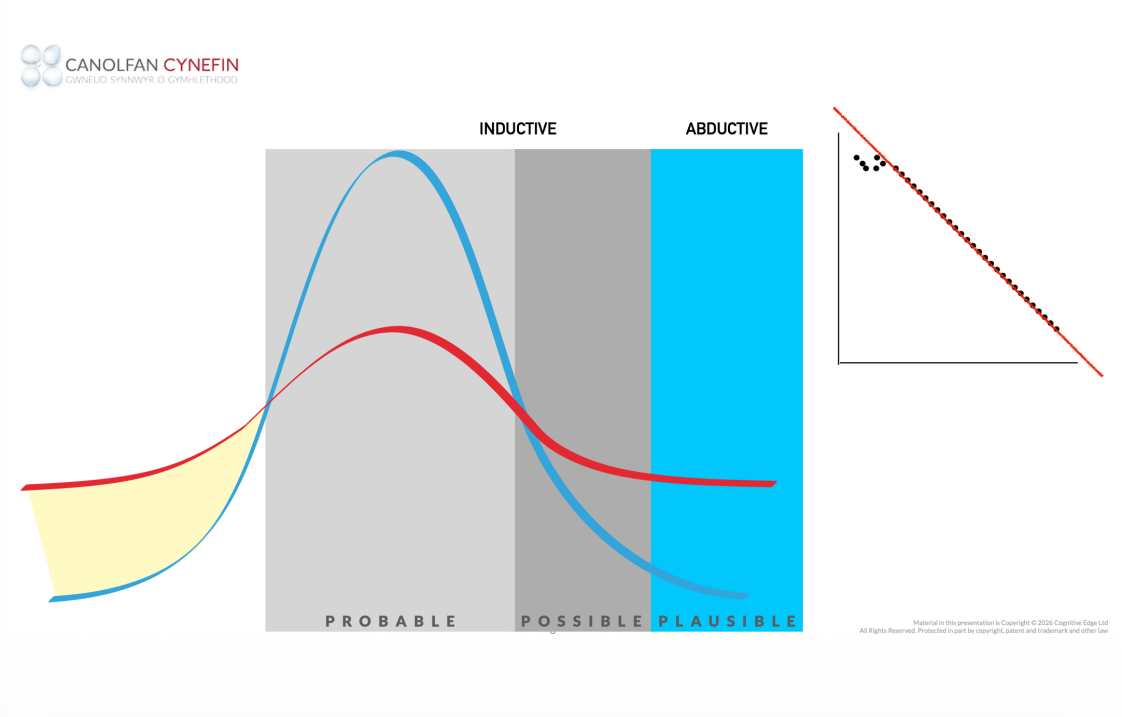
Peirce illustrated the three forms with the well-known bag-of-beans example (Collected Papers Vol. 2). All three use the same three statements but in different roles — what is the conclusion in one is the premise in another. This shows most clearly that the forms of inference are not "better" or "worse" but serve different situations.

- **Deduction.** Rule: *all the beans in this bag are white*. Case: *these beans are from this bag*. Conclusion: *these beans are white*. Certain, given the premises hold.
- **Induction.** Case: *these beans are from this bag*. Observation: *these beans are white*. Conclusion (generalisation): *all the beans in this bag are white*. Probable but not certain — depends on the representativeness of the sample.
- **Abduction.** Rule: *all the beans in this bag are white*. Observation: *these beans are white*. Conclusion (hypothesis): *these beans are from this bag*. A "best explanation" between a known rule and an observation — fallible, but the only way a new explanatory idea is born.

Abduction is therefore not guessing. It is a deliberate jump from observation to explanation when the rules do not deductively yield a conclusion and the sample is too small for an inductive generalisation. Peirce's later formulation: abduction is the only form of inference by which a new idea can arise — deduction and induction only test it.

Three regions: Probable, Possible, Plausible

Snowden uses the curve below repeatedly to explain why abduction is essential when working with complexity. It is not decoration on his slides but one of his most important illustrations of why data alone is not enough.



How to read the curves and regions

- **Blue curve** = the amount of available historical data. Plenty around the average; little in the tails. Where the curve is high, statistical inference is strong.
- **Red curve** = the significance and impact of events — independent of their frequency. Many large, system-changing events are rare, but their effect is anything but rare. Where red is high and blue is low, significance exceeds the available data.

- **PROBABLE (inductive region).** Plenty of data, recurring events. Statistical inference, machine learning, and induction are reliable. AI works best in this region.
- **POSSIBLE (the edge of induction).** Less data and more variance, but the phenomenon still has history. AI can give direction, but the uncertainty of its predictions grows quickly — human interpretation is needed.
- **PLAUSIBLE (abductive region).** Events are rare or one-off, the data are too sparse for statistical generalisation — but the impact is the most consequential. Induction fails here in principle: there is nothing to generalise from. The only usable form of inference is abduction — "what hypothesis would best explain this?" — leaning on human experience, intuition, and cross-domain knowledge.

The right-hand inset: frequency × impact

On the right of the main figure is a small scatter chart with frequency of events on the x-axis and significance/impact on the y-axis. The line slopes from upper left to lower right: the rarest events (left) are the largest in impact, and the most common (right) are the smallest. Snowden's point is that although large events are vanishingly rare, their impact is so dramatic that they cannot be ignored — yet there is precisely not enough data on them, because they happen so seldom. This is the existence-justification of abductive reasoning: problem-solving where induction and deduction don't suffice.

AI relevance: why abduction is critical in the AI era

Snowden uses the abduction-induction distinction as one of his central ways of separating human thought from machine learning. Current machine learning, including large language models, is best understood here as operating in the statistical/inductive region: it generalises from patterns in large bodies of prior data. It does not, by itself, provide abductive judgment in the Peircean sense. This works excellently in the PROBABLE region, helpfully in POSSIBLE, and weakly or not at all in PLAUSIBLE. In practice: use AI where the past is a useful guide; use humans where the future may not resemble the past.

Deduction is in turn the classical strength of software: logic, proofs, rule-based systems. Here machines are faster and more accurate than humans — provided the rules hold.

Abduction — producing a new hypothesis where prior data is missing — is still largely a human strength. Snowden's argument: the more automation frees human time from inductive and deductive routines, the more space remains for what humans do best — abductive reasoning, exaptation (repurposing what exists for new ends), and the recognition of coherence. Neglecting this principle — applying AI to the PLAUSIBLE region where it cannot work — risks degrading exactly the human capacities most needed there.

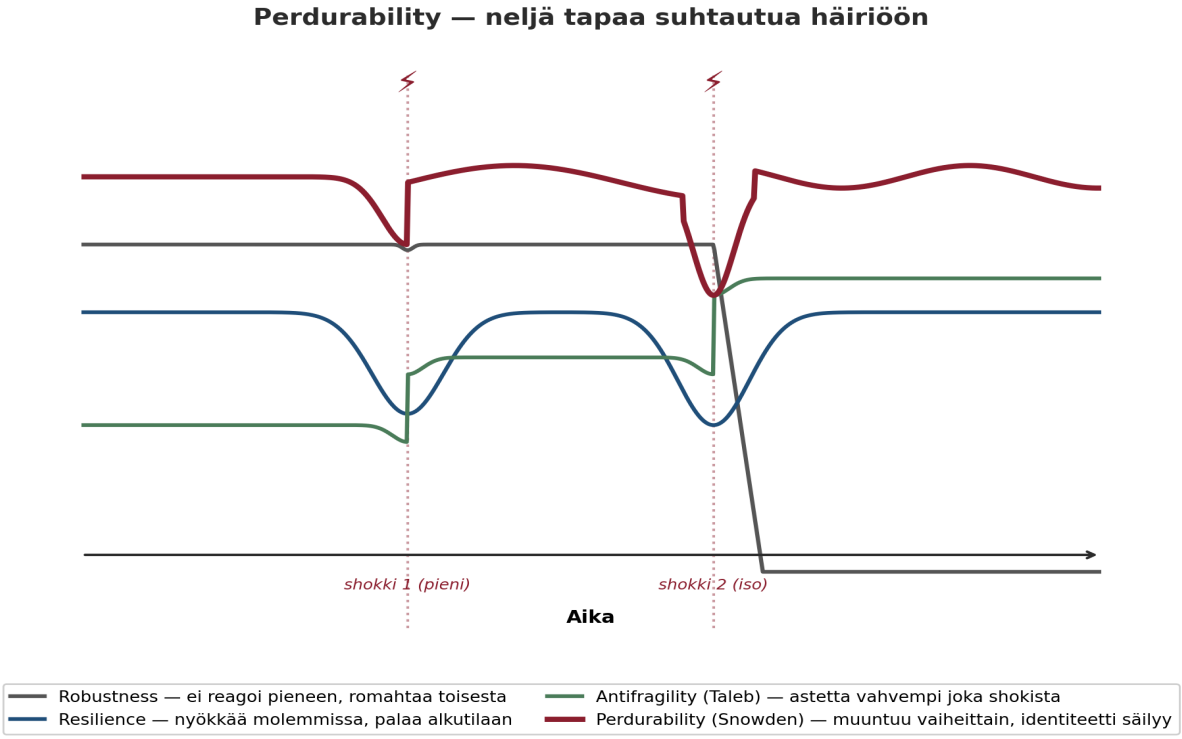
Cynefin Co's SenseMaker tool is one example of supporting abduction in practice: it produces narrative data in which a person can see connections and contradictions that pure classification would have hidden. SenseMaker does not replace abduction; it lays the ground on which a person can do it.

The AI–human interface should therefore be designed by region: automate PROBABLE, support decision-making in POSSIBLE, and leave PLAUSIBLE to humans — with care that the human has the time, knowledge, and context that abduction requires.

Source: Cynefin Wiki https://cynefin.io/wiki/Abduction (last modified 2024-05-24). Peirce, Collected Papers Vol. 2 (1931–1958); Gilbert Harman, "The Inference to the Best Explanation" (1965); Gregory Bateson, Mind and Nature (1979). Three-region curve: Cognitive Edge / Canolfan Cynefin (© 2026).

13. Perdurability — redefining endurance

Snowden has criticised Nassim Taleb's antifragility and Zolli & Healy's resilience as too narrow. He proposes the term perdurability — endurance through time — instead.



Four ways of relating to disturbance

The figure shows two shocks: a smaller one (⚡ t≈3) and a larger one (⚡ t≈6). Each of the four curves represents a different strategy against disturbance. The curves are independent phenomena, not summable variables.

- **Robustness (grey)** — a hard shell, e.g. glass, concrete, or a tightly regulated process. Does not respond to a small shock at all (it stays under the breaking point). The second, larger shock often hits an already micro-damaged spot and breaks the whole structure in one stroke. Catastrophic collapse is not the exception but the typical death of a robust system.
- **Resilience (blue)** — a rubber ball. Dips at both shocks and bounces back to the original state every time. Business-continuity thinking: restore previous operation as fast as possible. Problem: the "previous" no longer always serves, if the environment has already moved on.
- **Antifragility (green, Taleb)** — benefits from shock: a notch stronger after each disturbance. The curve is flat between shocks — an antifragile system doesn't need continual disturbance to stay where it is, it simply steps up through each shock. E.g. muscle from training, the immune system from exposure, a distributed software system from chaos engineering. Precondition: the system can absorb the dip caused by the shock.
- **Perdurability (red, Snowden)** — able to transform stepwise while preserving its identity and essential properties over the long term. The curve is not the sum of the others, nor

monotonic — it consists of stable states, between which a shock triggers a phase shift. The shape and rhythm change while identity-relevant continuity is preserved. "Evolvability + continuity."

The core idea

Ecological and social systems do not return to the original state (resilience) and they do not merely strengthen through shock (antifragility) — they transform through crises while sustaining continuity. Helsinki after the war had not "recovered" or "strengthened" — it had transformed while continuing to exist. This is the logic of perdurability.

Why the perdurability curve is not the sum of the others

It can be tempting to read the red curve as a sum or average of the other three. It isn't. Robustness, resilience, and antifragility are strategies by which a system tries to preserve its own structure (in different ways). Perdurability is a separate strategy: it gives up preserving its form in order to preserve its identity. The point of the red curve is not performance level but continuity through transformation: the system changes form while retaining identity-relevant coherence after each shock. If the curve fell, that would be a degenerating system; if it rose, antifragile. Perdurability is a horizontal, stepwise transformation curve.

Application in organisations

If you aim for pure resilience, you try to restore the previous — which in a complex environment often means regression. Antifragility requires shocks you can benefit from; it suits distributed systems but critical infrastructures cannot tolerate it. Robustness works until it doesn't — and then the loss is nearly total. Perdurability asks: what are the essential parts of identity and operation we want to preserve, and what is changeable? In practice this leads the organisation to define what is the "core to preserve" (mission, values, relationships) and what is "transformable" (structures, processes, products) when crisis hits.

Source: Dave Snowden's blog series 2023–2024 (thecynefin.co). Critical targets: Nassim Taleb, Antifragile (2012); Andrew Zolli & Ann Marie Healy, Resilience (2012).

14. Wayshaping — shaping the substrate so good decisions can grow

Wayshaping (August 2025) is Snowden's most recent complexity-theoretic framework for behaviour change. It does not compete with "nudge" or "habit change" models but operates a level deeper: instead of manipulating the moment of individual choice, wayshaping shapes the environment from which coherent action can arise across multiple scales and many possible futures.

Core idea — shaping the substrate, not pointing the way

> *"The idea of wayshaping is to maintain possible futures from which coherent action can arise. We don't know in advance where the paths will form, but we shape the environment to be hospitable to good routes and unfriendly to bad ones."*

The object of change is not human action directly, but the substrate on which action rests. Snowden's own definition (9/2025): wayshaping is the deliberate shaping of the substrate's properties so that some things become naturally possible and others become difficult or impossible. We don't direct people onto a path we know to be the right one in advance; we shape the terrain so that several workable paths can arise, and the paths people walk become established over time — much like the old packhorse routes of long ago.

This makes the distinction between wayshaping and pointing-the-way sharp: a guide assumes she knows the destination and tries to get others to walk toward it. A wayshaper does not know the destination and does not even try — she tends the substrate so that, when the future arrives, people and communities can in that moment make good, coherent decisions without their having to be scripted in advance. The outcome is not one right route but a possibility space in which sensible choices arise naturally and bad choices become harder or impossible.

In practice this means shaping structures, routines, spaces, language, and social norms in ways that don't direct action in words but make it possible in deeds. The Wayshaping Matrix introduced at the end of this chapter offers a diagnostic tool for this: it helps identify what kind of substrate the organisation's culture is currently producing — does it support the maturation of expertise, or is it sliding toward literal bureaucracy or the unaddressed shadow side?

Metaphor — terrain on which sensible paths can form

Imagine a network of paths in the wild. Individual paths are not drawn in advance by anyone, nor are they cleared at random — but the terrain can be deliberately tended so that there is room for sensible, coherent routes to form as they are needed. This is exactly what wayshaping is about: not drawing a map of the future, but keeping the substrate such that several workable paths can arise and undesired directions clog up of themselves. In an organisation it means shaping structures, routines, spaces, and language so that future choices can be made sensibly, even though we don't yet know what situations will arrive. The metaphor connects to Snowden's own day's hike on Troutbeck Tongue: when he himself begins to walk, weak signals in the terrain are reinforced, and if others follow, the path settles in by the same logic as the trade routes of older centuries.



Illustration (AI-generated): wayshaping as a metaphorical network of paths walked and shaped by people for shared use.

Three scales — from the starting point to the network of paths

Wayshaping interventions are always designed across three parallel scales. Skipping any of them is not viable — coercing the individual without group and structural change is precisely the "behaviour change theatre" Snowden criticises. The diagram below illustrates how the scales nest: at the centre the starting point (the present situation and the individual's affordances), around it group dynamics, and at the outermost institutional structures. The red paths radiating from the centre and the open rings at their ends depict possible futures — to be shaped, not predicted.

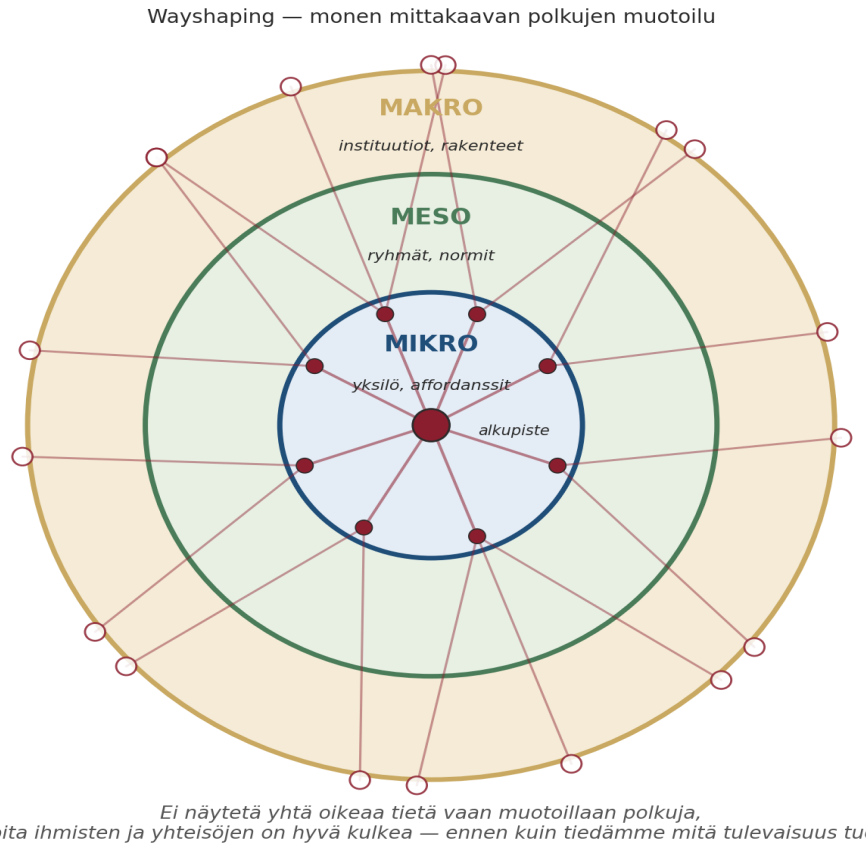


Illustration of the three scales (a pedagogical synthesis specific to this material, not a canonical Snowden diagram). Paths radiating from the starting point and the open rings at their ends depict futures whose shape we don't yet know — wayshaping prepares the terrain for them. Snowden's own wayshaping blogs use verbal explanation and the matrix presented in the next section.

- **Micro scale** — individual affordances and constraints. What does the environment directly enable?
- **Meso scale** — group dynamics, social norms, local culture.
- **Macro scale** — institutional structures, laws, the economic system, infrastructure.

Wayshaping Matrix — a diagnostic map of culture

Snowden is currently developing the matrix below in support of wayshaping. The matrix is unfinished work-in-progress (the typo "Beurocracy" → Bureaucracy is still visible, for instance), but its structure gives a strong handle for cultural diagnosis. The matrix helps identify in which direction culture should be shaped and where the slide toward an unhealthy quadrant threatens.

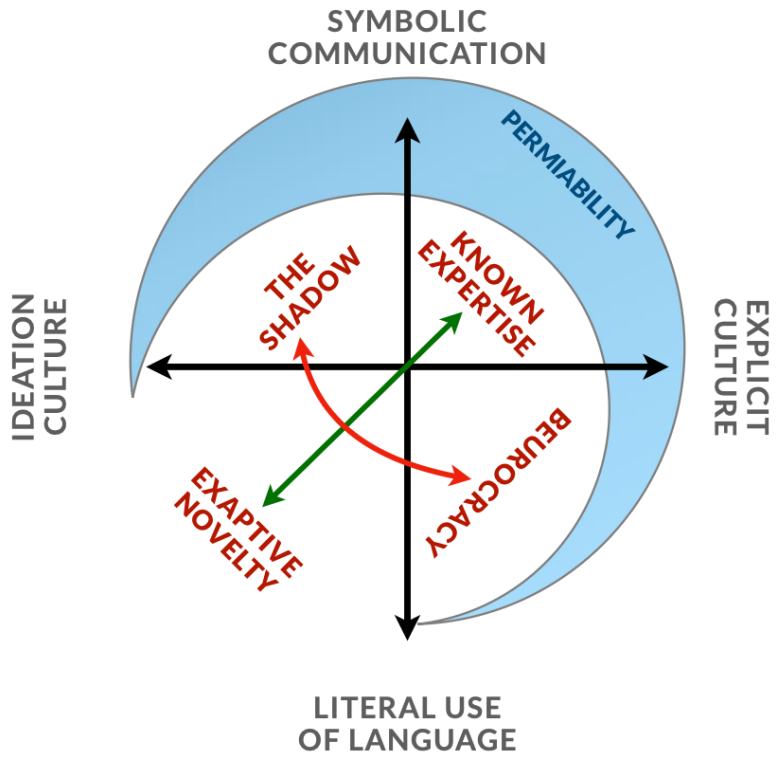


Image: Dave Snowden's Wayshaping Matrix (work in progress), satorikoulutuspalvelut.fi/04_Oppiminen/Cynefin. The axis and quadrant readings below are the author's interpretation of Snowden's context.

Axes

- **Vertical axis: Symbolic Communication (top) ↔ Literal Use of Language (bottom).** How does meaning travel in the culture? At the symbolic end: metaphor, ritual, story, and meaning that is understood without being said. At the literal end: precise, unambiguous, direct language — process descriptions, tickets, statutes.
- **Horizontal axis: Ideation Culture (left) ↔ Explicit Culture (right).** What does the culture lean on in its action? At the ideation end: ideas, exploration, sense-making (research, creative teams). At the explicit end: formalised, documented, codified practice (compliance, technical engineering).

Four quadrants

- **KNOWN EXPERTISE (top-right — Symbolic + Explicit):** Healthy mastery. Explicit processes have accumulated symbolic meaning — the professional knows what the rules mean, not

just what they say. Senior surgeon, experienced pilot, veteran trainer. The target quadrant of a working expertise culture.

- **THE SHADOW (top-left — Symbolic + Ideation):** An application of Jung's shadow concept: the unspoken, tacit, implicit layer of culture. Taboos, unwritten norms, "this is how we've always done it". A powerful shaping force, but dangerous when bypassed — both the culture's deep wisdom and the things it represses live in the shadow.
- **BUREAUCRACY (bottom-right — Literal + Explicit, written "Beurocracy" in the figure):** The typical degeneration of an explicit culture: rules become literal and lose their symbolic meaning. Compliance without understanding. Filling in the form becomes more important than what the form was originally measuring.
- **EXAPTIVE NOVELTY (bottom-left — Literal + Ideation):** Exaptation (a term from evolutionary biology) = the repurposing of a feature originally evolved for some other end. Literal experimentation + ideation → new uses emerge through direct experiment. The quadrant of creative breakthrough — feathers evolved for warmth but turn out to enable flight.

Permeability and movement directions

The blue half-moon ("Permeability") arcs across the right side of the matrix from KNOWN EXPERTISE toward Bureaucracy. It depicts a permeable boundary inside the explicit culture — ideally expertise and rules can stay in conversation so that processes don't congeal into a literal compliance machinery. Without permeability, the right side slides from KNOWN EXPERTISE into Bureaucracy.

The green arrow runs diagonally along the EXAPTIVE NOVELTY ↔ KNOWN EXPERTISE axis: this is the healthy line of change wayshaping tries to keep open — ideational experiments mature, over time, into expertise. The red arcs warn of the unhealthy moves: KNOWN EXPERTISE freezes into BUREAUCRACY when the symbolic dimension fades, and THE SHADOW erupts uncontrollably into EXAPTIVE NOVELTY when the implicit tension is left unaddressed.

Connection to other frameworks

- Diagnosis: *3 As* (Agency, Affordance, Assemblage).
- Intervention design: *Estuarine Mapping*.
- Operational delivery: *AIMS* (Actants, Interactions, Monitors, Scaffolding).
- Philosophical basis: *aporetic thinking* — the outcome of change is not predefined.

Relation to Cynefin

Wayshaping is in line with the Complex-domain probe-sense-respond logic: try small path-shifts, sense the effects, respond accordingly. In the Complicated domain wayshaping would not be needed — there, designed interventions work.

Source: Dave Snowden et al., "A Multiscale Framework for Behavior Change: Wayshaping" (August 2025); thecynefin.co blog. Referenced at the London Masterclass 2026. Wayshaping Matrix image: Dave Snowden, work in progress (2026).

How the frameworks relate to each other

The frameworks are not isolated silos but tools that link to each other. A rough mapping:

- **Cynefin** — diagnosis: where are we?
- **Uncertainty Matrices** — a refinement of Cynefin on the nature of uncertainty.
- **Estuarine** — a strategic operating space.
- **Flexuous Curves** — market and ecosystem dynamics in time.
- **3 As + ASHEN + AIMS** — the operational toolkit for designing and delivering interventions.
- **WRASSE** — weaving strategy and risk together.
- **PAGODA** — a framework for the qualities of a complex system (built on Paul Cilliers).
- **ACUMEN + Cognitive Triad** — a framework for human judgment in the age of AI.
- **Abduction** — the form of inference for complex systems.
- **Perdurability** — a redefinition of system endurance.
- **Wayshaping** — a complexity model for behaviour change.

All the frameworks share the same naturalistic sense-making starting point: people and organisations are part of complex adaptive systems, and cognition is embodied, situated, narrative, and pre-reflexive.

Sources

Primary sources (links open at cynefin.io and thecynefin.co):

- Cynefin — https://cynefin.io/wiki/Cynefin (last modified 2023-04-16)
- Cynefin Domains — https://cynefin.io/wiki/Cynefin_Domains (2022-08-03)
- Estuarine framework — https://cynefin.io/wiki/Estuarine_framework (2025-03-28)
- Flexuous curves — https://cynefin.io/wiki/Flexuous_curves (2024-04-29)
- AIMS — https://cynefin.io/wiki/Aims (2025-04-28)
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- Abduction — https://cynefin.io/wiki/Abduction (2024-05-24)
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- Uncertainty Matrices — https://cynefin.io/wiki/Uncertainty_matrices
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Other works cited:

- Snowden, D. & Stanbridge, P. "The landscape of management: Creating the context for understanding social complexity." E:CO Vol. 6 Nos. 1–2 (2004), pp. 140–148.
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- Sonja Blignaut, "Organizing Principles: The Spirit of Cynefin." In Cynefin – Weaving Sense-Making into the Fabric of Our World (eds. Dave Snowden & Friends), Cognitive Edge Pte Ltd, 2021.
- Vivienne Read, "Facilitation can be complex (and it certainly should be)." Same volume.

At the time this document was produced (24 April 2026), the most recent frameworks — Cognitive Triad (3S, February 2026), Wayshaping (August 2025), and WRASSE — are still in public development. For the freshest formulations and updates, check the cynefin.io wiki and the thecynefin.co blog.

Appendix A — Cynefin Frames

A.1 About the Frames

In the St David's Day 2025 series, Snowden introduced the hexa-based Cynefin Frames, replacing the earlier 3×3 matrices ("domain models"). The hex form is now canonical for Snowden — Cynefin Co's Hexi-kit products are built on it, and method substitution (swapping individual cells for methods that fit the situation) is part of the idea of the form.

Common principles:

- A diamond of nine hexagons: 1 + 2 + 3 + 2 + 1.
- The top hex borders the aporetic centre (a deliberate pause; healthy but watchful).
- The middle row (3 hexes) is the area of healthy operation.
- The bottom hex borders the confused state, where collapse is a real risk.
- Two diagonal axes, each axis labelled at the bottom corner.
- Green = OK, orange = warning, red = alarm.
- Neighbouring domains appear as grey hexes around the diamond; yellow arrows indicate the key transitions.
- A frame can serve both as an extension of Cynefin and as a stand-alone entry point.
- Snowden's original English terminology is kept inside the hexes for its precision; explanations follow in prose.

Snowden himself acknowledges ("not sure I have yet got everything right") that the integrated visualisation is still under development. The forthcoming Field Guide to Cynefin will contain the final versions of the frames.

Source: thecynefin.co/st-davids-2025/ series, 5 posts (1–10 March 2025). Snowden's original images have been redrawn here, preserving the structure, terminology and dynamics (typos in the originals corrected).

A.2 Clear Frame



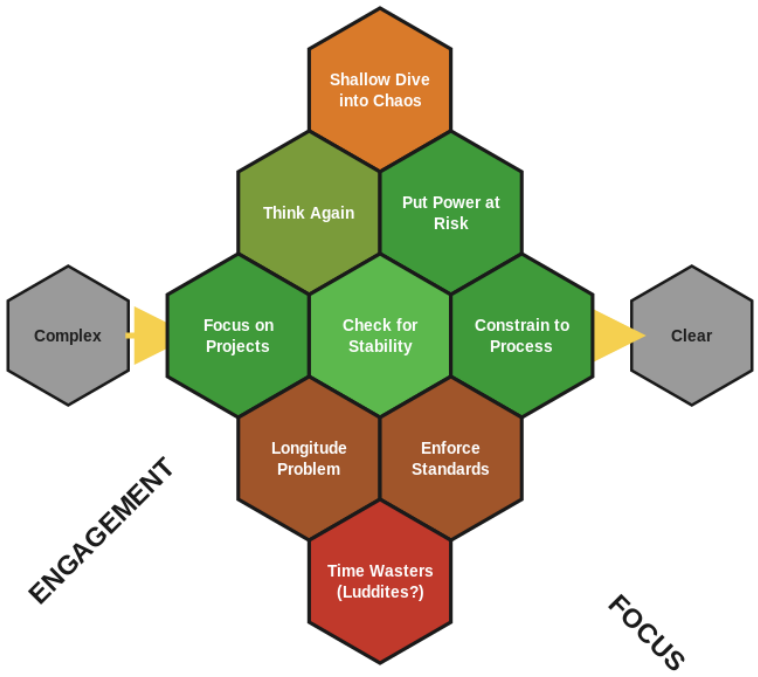
Axes: enforcement (how rules are applied) and response (the reaction of those subject to them). Only two fully healthy states: at the centre Stable Best Practice and beside it Are You Sure? — the entry point from Complicated.

- **The Cynics Care (top hex)** — cynics put themselves at risk to tell you about the system; listen rather than judge. Diogenes vs. the Stoics: the Cynics dared to challenge authority.
- **Engage & Listen | Gaming the System (upper row)** — healthy ethnographic understanding vs. dangerous symptom (rules followed in form, evaded in fact).
- **Are You Sure? | Stable Best Practice | Ossified Will Fail (middle row)** — entry point, healthy work area, and the ossified system where zombie-like enforcement collapses everything (catastrophic fold → Chaotic).
- **Negotiate | Challenge then Fire (lower row)** — negotiate exceptions vs. dismiss persistent challengers (carefully — every challenge is a weak signal).
- **Sycophant Zone (bottom hex)** — everyone agrees with the boss; weak-signal detection is eliminated. Especially dangerous as a feature of organisational culture.

Key transitions: Complicated → Are You Sure? → Stable Best Practice (healthy entry). Sycophant Zone → Stable Best Practice (Snowden draws this as a recovery arrow). Ossified Will Fail → Chaotic (catastrophic fold).

Source: thecynefin.co/st-davids-2025-4-5-clear-frame/

A.3 Complicated Frame



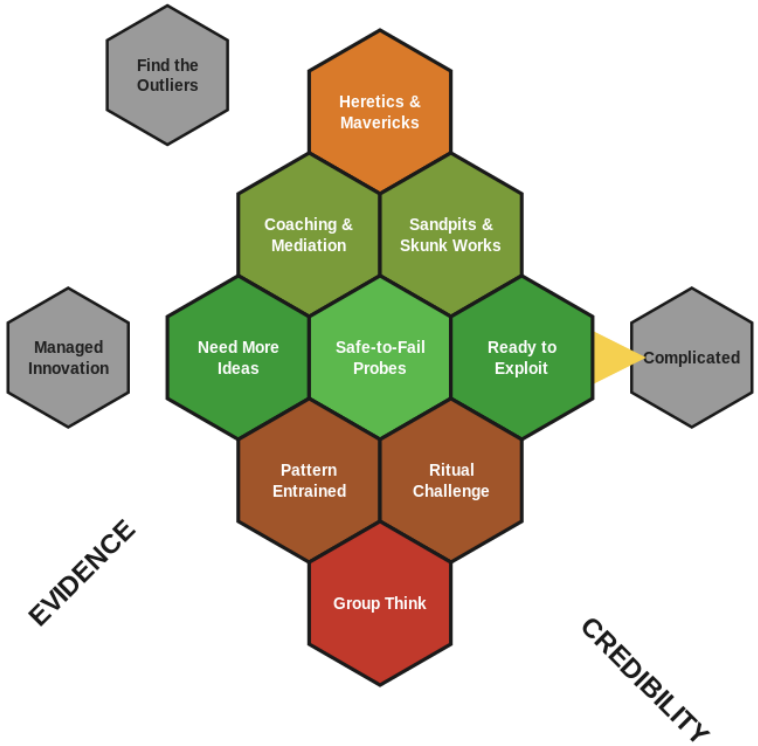
Axes: engagement (how broad the participation is) and focus (strategic emphasis). At the centre, a stability decision: if it holds → Clear; if not → return to Complex (Snowden's "blue dynamic" in Cynefin).

- **Shallow Dive into Chaos (top hex)** — resistors have a point but commitment has gone too deep; a shallow dive into chaos may be the only way forward.
- **Think Again | Put Power at Risk (upper row)** — return to Complex / the liminal zone vs. putting the resistors' power at risk by oblique means.
- **Focus on Projects | Check for Stability | Constrain to Process (middle row)** — a healthy stepwise path from Complex to Clear: small project work → stability check → standardisation.
- **Longitude Problem | Enforce Standards (lower row)** — Astronomer Royal vs. Harrison's H1 clock: orthodoxy held for a long time before the pragmatic solution prevailed. Forcing standards too early is a bad path.
- **Time Wasters / Luddites? (bottom hex)** — resistance has continued for too long; their position must be challenged. "The Luddites had a point, but it could only go so far."

Key transitions: Complex ← Focus on Projects ← Check for Stability → Constrain to Process → Clear (a two-way main pathway through the middle row).

Source: thecynefin.co/st-davids-2025-3-5-complicated-frame/

A.4 Complex Frame



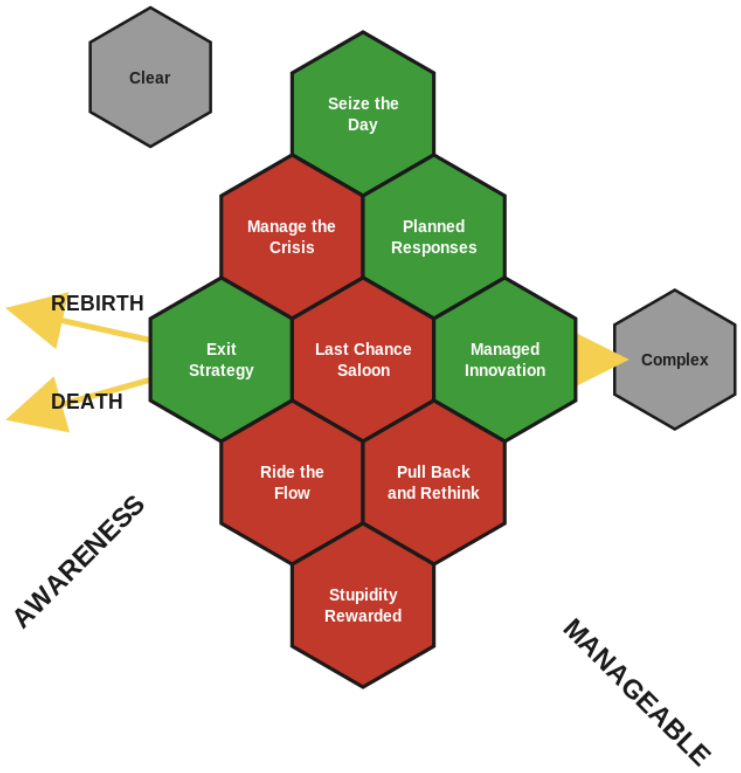
Axes: evidence (the nature of the evidence — gut / case-based / beyond reasonable doubt; mirrors abductive / inductive / deductive reasoning) and credibility (congruent / orthodox / intransigent). At the centre, Safe-to-Fail Probes — the core technique of complexity.

- **Heretics & Mavericks (top hex)** — tolerance for unorthodoxy. Distinguish coherent heretics from incoherent ones: anyone who calls themselves a "maverick scientist" is usually deluded.
- **Coaching & Mediation | Sandpits & Skunk Works (upper row)** — mentoring for mavericks and translators for the mainstream (Belbin's Monitor-Evaluator role); novel approaches sheltered.
- **Need More Ideas | Safe-to-Fail Probes | Ready to Exploit (middle row)** — acknowledged need for change, multiple parallel hypotheses (not in series), and the move into Complicated when the evidence is sufficient.
- **Pattern Entrained | Ritual Challenge (lower row)** — shared background locks thinking in place vs. ritualised challenge of powerful actors (descriptive self-awareness).
- **Group Think (bottom hex)** — "my way or the highway" culture. The remedy usually lies at the top: from confused to aporetic.

Extra hexes (grey, outside the diamond): Find the Outliers (SenseMaker®-style outlier detection), Managed Innovation (Chaos neighbour), Complicated (target domain from Ready to Exploit).

Source: thecynefin.co/st-davids-2025-2-5-complex-frame/

A.5 Chaotic Frame



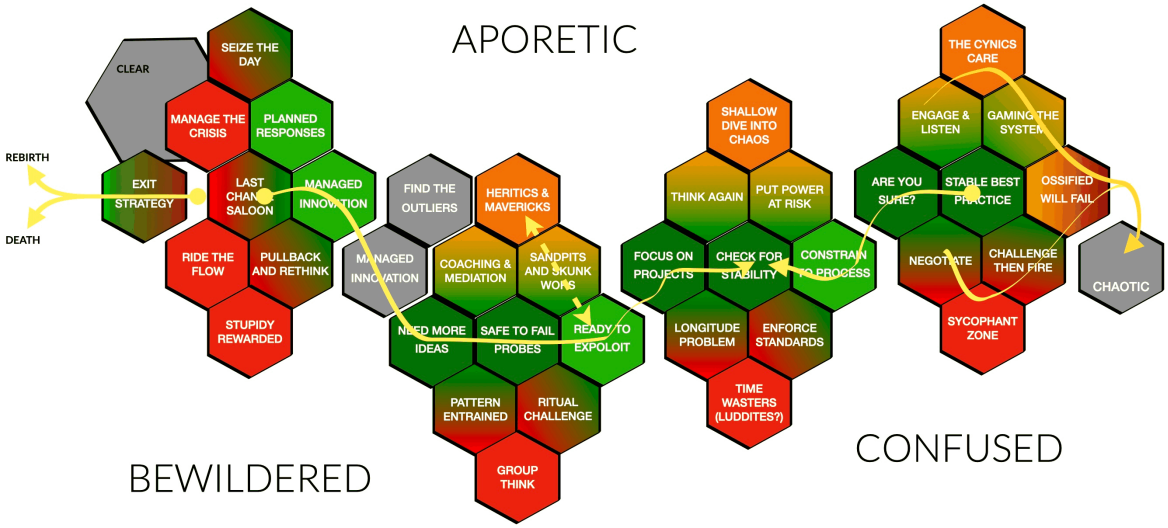
Axes: awareness (the decision-maker's awareness — deliberate / foreseeable / unimaginable) and manageable (control of constraints — known / knowable / unknowable; linked to the Uncertainty Matrix). At the centre, Last Chance Saloon — the final moment before full crisis.

- **Seize the Day (top hex)** — a Black Swan recognised in time → conversion into an aporetic opportunity. Requires the capacity for descriptive self-awareness.
- **Manage the Crisis | Planned Responses (upper row)** — wilful blindness has led to the situation, decisive action now vs. foresight (scenario planning, contingency).
- **Exit Strategy | Last Chance Saloon | Managed Innovation (middle row)** — rebirth or death vs. rapid imposition of constraints vs. deliberate shallow dive into chaos to build resilience.
- **Ride the Flow | Pull Back and Rethink (lower row)** — let the flow carry (action too early makes things worse) vs. constraints have slipped out of hand.
- **Stupidity Rewarded (bottom hex)** — chaos created on purpose without understanding the constraints → catastrophe.

Special features: Exit Strategy branches in two directions, Rebirth (opportunity) or Death (end). Neighbours: Clear (upper-left) and Complex (middle-right, continuing from Managed Innovation). Key idea: forethought before foresight. Resilience is built in advance (e.g. human-mediated game environment / anthro-simulation).

Source: thecynefin.co/st-davids-2025-1-5-chaos-in-hexi-form/

A.6 mwg coffi cynefin — the coffee-mug view



(Welsh for "coffee mug Cynefin" — Snowden's name, evocative: the whole Cynefin framework on the surface of a mug.)

Snowden presents all four frames together, wrapped around the surface of a coffee mug — alternatively a bowling ball or a globe — with APORETIC at the top pole and CONFUSED at the bottom. On the left edge a third zone label appears, BEWILDERED, the bewilderment region that emerges as the mug surface curves between Chaotic and the others.

The heart of the figure is the grey transition hexes between the four hex-diamond frames, together with the yellow arrows — they show the dynamics of moving, deliberately or inadvertently, from one domain to another. For example: above Chaotic the grey CLEAR hex (when chaos is stabilised straight into the ordered domain — rare but possible); above Complex the grey FIND THE OUTLIERS hex (outlier detection feeding the Heretics & Mavericks process); on the left side of Complex the grey MANAGED INNOVATION hex (Chaotic's own internal cell, reachable from safe-to-fail probes or used as a deliberate shallow dive into chaos); on the right of Clear the grey CHAOTIC hex (the catastrophic fold — Ossified Will Fail dropping straight into chaos).

The yellow arrows show the dynamic pathways within and between the frames: from Chaotic's Exit Strategy the REBIRTH and DEATH branches lead outward; from Last Chance Saloon an arrow runs through Managed Innovation up to the level of Complex's Sandpits and on towards Heretics & Mavericks; Complex's middle-row main path Need More Ideas → Safe-to-Fail Probes → Ready to Exploit, and from there into Complicated's Focus on Projects; Complicated's middle row Focus on Projects ↔ Check for Stability ↔ Constrain to Process is two-way and ends in Clear; in Clear, Stable Best Practice rises into The Cynics Care, Sycophant Zone returns to Stable Best Practice, and Ossified Will Fail folds catastrophically into Chaotic.

Each frame is a stand-alone way of making sense of a situation, but together they reveal the dynamic transitions across the whole framework.

Key points:

- Aporetic and confused surround all four domains; they are not a "fifth domain" on equal footing.
- On the surface of the mug, transitions between domains are visible as routes, not just lines between boxes.
- The hex form enables method substitution — cells can be swapped for methods that fit the situation.
- Snowden acknowledges that the integrated visualisation is still under development.
- The forthcoming Field Guide to Cynefin will contain the final versions of the frames.

Relation to the standard Cynefin diagram: the coffee-mug view is complementary, not a replacement. The standard diagram (from cynefin.io wiki, used in the Cynefin chapter of this document) remains the primary teaching layer; the frames are a deeper layer for when the basics are in place.

Source: thecynefin.co/st-davids-2025-5-5-mwg-coffi-cynefin/

Appendix B — Plain-language summaries (for first-time readers)

This appendix gives a one-sentence plain-language anchor for each of the chapters above. The summaries are deliberately simple. They are not substitutes for the chapters — they are entry points that let a first-time reader hold the shape of each framework before diving into the more technical body of the document.

Each summary is written to be consistent with the corresponding chapter; if you want depth, return to the chapter itself.

1. Cynefin — Cynefin helps you choose the right kind of decision-making approach for the situation you are actually in, rather than defaulting to the response that worked elsewhere.

2. Estuarine Mapping — Estuarine Mapping helps you see what can be changed now, what cannot, and what may need to be watched for change even when nothing is being actively changed.

3. Flexuous Curves — Flexuous Curves helps you understand how ideas, organisations, and market positions rise, stall, dominate, decline, or find new life.

4. Uncertainty Matrices — The Uncertainty Matrix separates what kind of situation exists (ontology) from what we currently know about it (epistemology).

5. 3 As — 3 As replaces "mindset" thinking with three questions: does the person have an independent capacity to decide (Agency), what does the environment actually make possible (Affordance), and what does social belonging support or block (Assemblage)?

6. ASHEN — ASHEN reminds us that not all knowledge can be transferred by writing it down: artifacts, skills, heuristics/habits, experience, and natural talent each travel differently.

7. AIMS — AIMS reminds us that in complexity outcomes cannot be commanded directly — we can only steer through actants (Actants), interactions (Interactions), monitoring (Monitors) and scaffolding (Scaffolding).

8. WRASSE — WRASSE treats strategy and risk as one fabric, woven together, not as separate activities.

9. PAGODA — PAGODA names the qualities that make intervention in a complex system more likely to work.

10. ACUMEN — ACUMEN names the dimensions of human judgment that automation can support but not simply replace.

11. Cognitive Triad (3S) — The Cognitive Triad explains why attention (Salience), wisdom (Sapience), and felt significance (Sentience) all matter in human judgment.

12. Abduction — Abduction is how humans form plausible new explanations when existing data and rules are not enough.

13. Perdurability — Perdurability means continuing through time by transforming rather than by holding form: identity persists while shape changes.

14. Wayshaping — Wayshaping changes the terrain so that better paths can form, rather than telling people which path to take.