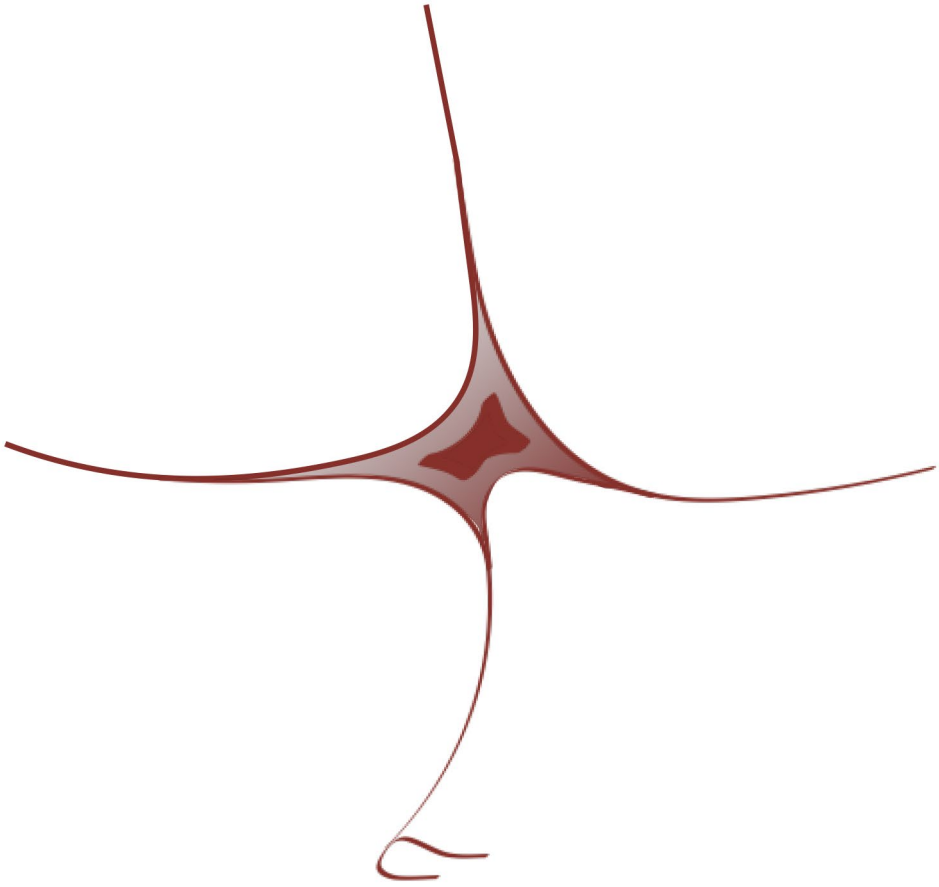

THE CYNEFIN MINI-BOOK

An Introduction to Complexity and the Cynefin Framework

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InfoQueue
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The Cynefin Mini-Book

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Contents

Preface

This mini-book started out as a series of papers that were experiential in nature, which were intended to provide an introduction to Cynefin, so you won't find discussions about the ontology, epistemology, and phenomenology of the approach (okay, you will: ontology is mentioned once in the third paper when disorder is discussed, but it is an important part of the message). Shane Hastie suggested making them into a mini-book, which also provided the opportunity to add some text on the use of narrative. This discussion provides a bridge between the first paper, which contains the introduction, and the third paper in the series, which is about sense making. It also provided the opportunity to include some writings on Cynefin dynamics, on which there is little written. This deals with the management of groups and moving between exploration (un-order) and exploitation (order).

One of the key messages that comes from complexity is that you should work with fine-grained objects, leverage distributed cognition, and ensure disintermediation. Since this is a new management approach, there are not many stories to reference, but the article about Lotus in The Sunday Times that was published in February 2015 is interesting in that it embodies all of these principles. The new CEO asked for all three existing car models to be broken down into their parts, which were then laid out on tables for inspection. All 900 employees of the company were involved in this exercise and they were asked to tag the components using a traffic-light system. The components were either to be kept, supply renegotiated, redesigned, or discarded. This also ensured that everyone was on the same page and understood why these changes were being proposed. The exercise resulted in saving around 20 kg and £3,000. It also led to the quality of the cars being improved.

One thing that I did not also address in the papers was the derivation of the name Cynefin. It is a Welsh word and the literal English translation is "habit" or "place", but this does not convey its full meaning. Quoting Mike Pearson's In *Come I*: "It is the piece of earth where a community has lived – a community with whom we identify the places that we have lived." Dave Snowden noted in a tweet that its meaning is similar to the Maori word tūrangawaewae, which means "a place to stand". This again falls short in terms of the richness of the word, and Te Ara: The Encyclopedia of New Zealand expands the meaning to "places where we feel

especially empowered and connected. They are our foundation, our place in the world, our home."

I hope you find these writings of interest and use.

What is in an InfoQ mini-book?

InfoQ mini-books are designed to be concise, intending to serve technical leaders looking to get a firm conceptual understanding of a new idea, framework, technology or technique in a quick yet in-depth fashion. You can think of these books as covering a topic strategically or essentially. After reading a mini-book, the reader should have a fundamental understanding of the concepts covered, including when and where to apply them, how they relate to other ideas and technologies, and an overall feeling that they have assimilated the combined knowledge of other professionals who have already figured out what these concepts are about. The reader will then be able to make intelligent decisions about the concepts once their projects require them, and can delve into sources of more detailed information (such as larger books or tutorials) at that time.

Who this book is for

This book is aimed specifically at architects, project managers and stakeholders who are interested in a short introduction to the subject of complexity, and Cynefin and its related practices in particular. It is not intended to be a replacement for training, but to demonstrate some of the practices and the value that they offer in dealing with an increasingly uncertain world.

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PART ONE

The Cynefin Framework

Introduction

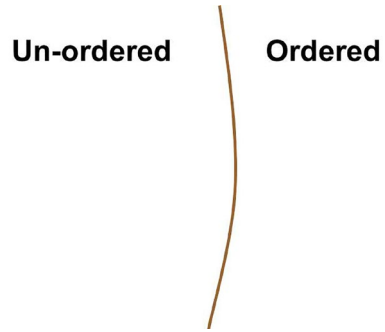
The Cynefin framework and its practices can be used to address the uncertainty of the modern world. The practices can be used to complement traditional approaches to programme and portfolio management. They provide a more comprehensive approach that reflects the needs of management in an ever more uncertain world.

We have seen a couple of books on the issue of uncertainty appear over the last decade, but neither has a comprehensive framework that allows us to deal with the modern world's increased uncertainty.

If anyone doubts that traditional models are struggling to deal with modern market dynamics, they only need to look at the demise of the Monitor Group. This was the company of Michael Porter (the father of strategic analysis) and used his market-analysis model. He based his approach on rigorous analysis of market forces and the assumption that this leads to a rational, structured approach that would result in a competitive advantage. It became apparent that while it could "help explain excess profits in retrospect, it was almost useless in predicting them in prospect." Matthew Stewart (2009) notes "Most successful strategies emerge through action; they become perspicuous only in hindsight." A.G. Lafley and Roger Martin (2013) also note that market dynamics are not this simple and the world is increasingly complex, global, and competitive. We've learned that there are limits to rationality, but how can we address uncertainty and take advantage of turbulence in the market place?

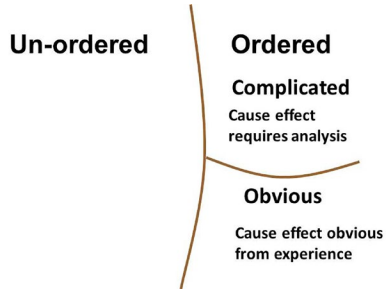
Limits of rationality

When we are faced with a problem, we assume that all we need to do is elaborate the options, select one, and then execute. This assumes that causality is determinable and therefore that we have a valid means of eliminating options. What we mean by causality is that we can relate cause and effect; if we take a certain action, we know what the effect will be — or

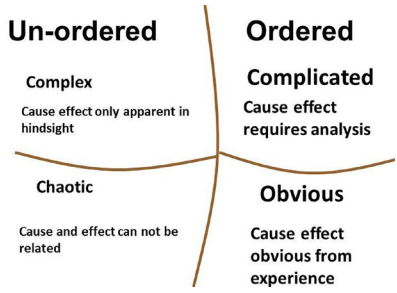


given an effect, we can determine what caused it. This is not always the case and we need to acknowledge that there are systems in which we can determine cause and effect and those in which we cannot. We call the former ordered and the later un-ordered[1] systems[2].

In an ordered system, the system is highly constrained, the behaviour is highly predictable, and the causality is either obvious from experience or can be determined by analysis. If the cause is obvious then we have a simple system, and if it is not obvious but can be determined by analysis, we say it is a complicated system as cause and effect (or determination of the cause) is separated by time.



For an un-ordered system, we cannot determine causality. However, we find that some of these systems are stable, and the constraints and behaviour evolve over time through the interaction of the components. They are dispositional in nature — that is, they are disposed to move or evolve in a certain direction — but causality can only be determined in hindsight, and no amount of analysis will allow us to predict the behaviour of the system. This domain, we call complex. But there are also some systems that are not stable and which we can only described as chaotic: there are few to no constraints, and behaviour is random. There is one additional domain that needs to be considered: systems that we have not yet determined — we put these in the "disorder" bucket.



We can apply another definition to systems that are ordered as we can take them apart and put back together again — for example, a car or an aeroplane; those that are un-ordered can never be deconstructed then put back together. For example, think of making mayonnaise.

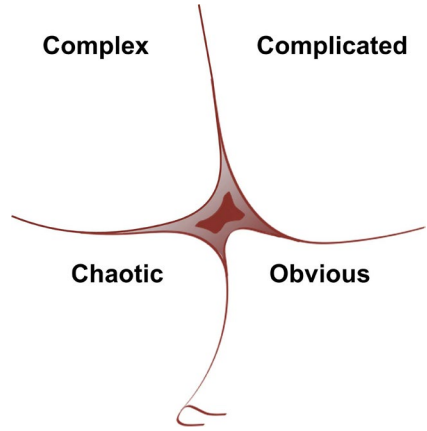
1 Disordered is a separate state, addressed below.

2 With a tip of the hat to Spencer-Brown.

We also need to acknowledge that systems are not always stable and the state of the system may change over time. A system may be stable and predictable, but its performance degrades over time or it may simply break. In the case of degradation, we may have to involve an expert (say, a mechanic in the case of a car) to analyse what is going on. In the case of breakage — for example, a car that has broken down and we have been thrown into chaos — we may need a rescue service to recover the vehicle and take it to a garage in order for the problem to be analysed. We have moved from obvious (driving the vehicle) to chaotic (the vehicle is broken) to complicated (we need a mechanic) to hopefully return to obvious (the car is again working).

The Cynefin framework

These domains of obvious, complicated, complex, and chaos, along with disorder (not yet determined), are the domains of the Cynefin complexity framework. The framework allows us to describe reality, and gives us techniques and practices that can be applied to manage in the complicated and complex domains. These practices complement the traditional approaches that are applicable where order holds. It is not the case that the old practices don't work, but we must realise that they only work within certain boundaries and that if we are not in an ordered space, they are not applicable.



Obvious[3] (known knowns): Here, we know what we are doing and have seen it a thousand times before, so we sense, categorise, and respond (S-C-R). We expect to see best practices employed.

Complicated (known unknowns): We don't know what is going on but we know that we can analyse what has happened and work it out, so we sense, analyse, and respond (S-A-R). This is the domain of good practice.

3 This domain was previously called "simple".

Complex (unknown unknowns): We cannot determine what will cause a particular outcome but we can run some experiments to see if they move us in the right direction, so we probe, sense, and respond (P-S-R). This is also the domain of multiple hypotheses: there is no right or wrong answer, so we may want to run a series of experiments or run a number in parallel. This is the domain of emergent practice.

Chaotic (unknowable unknowns): Here, the system is not stable but we need to do something as it is not viable to wait, so we act (do something), sense, and respond (A-S-R). This is the domain of novel practice.

Disorder (not determined): These are the items whose domain we have yet to determine.

These practices are summarised in the following table, which also suggests what we should consider in each domain. This touches on a number of practices such as crews as an alternative to teams or social-network simulation (SNS) — all of which indicate the richness of Cynefin.

	NATURE	RESPONSE	PREPARE
CHAOS	Unkownable unknowns Temporary state - no time No evidence of any constraint High turbulence no patterns Old certainties no longer apply	Act-Sense-Respond Speed of authoritative response vital Follow and enforce heuristics Focus on constraints not solution Use the opportunity to innovate	Establish heuristics & Parables Human sensor networks Crews as crisis management teams Simulation games for key managers Multi-perspective dissent feedback
COMPLEX	Unknown unknowns Messily coherent, patterns discernible Partial changing constraints Flux within stabilities Evidence supports contradiction	Probe-Sense-Respond Monitor safe-to-fail experiments All contradiction within heuristics Flex constraints to manage emergence Agility key to amplification/dampening	Create time and space for reflection Human sensor networks operational SNS & like to create networks Scenario planning (inc. micro) Build and monitor 'requisite diversity'
COMPLICATED	Known unknowns Ordered, predictable, forecastable Constraints evident and enforceable Stable with constraints Evidence susceptible to analysis	Sense-Analyse-Respond Determine experts or process to resolve Manage & enforce process Monitor effectiveness of constraints Focus on exploitation not exploration	Right people & process, right time Process engineering with feedback Diversity of exports in network Sound analytical practice Stand aside but stay in touch
OBVIOUS	Known unknowns Familiar, certain, well worn pathways Constraints self-evident to all Stable within universal constraints Self evident solutions	Sense-Categorise-Respond Ensure sound process in place Monitor for noncompliance & deviance Test for complacency Protect some pet mavericks	Watch for outliers Usable process Right support people for key staff Automate, but not automata Anonymous appeal/whistle blowers

This is a development of the original framework that appeared in the November 2007 Harvard Business Review paper on decision making. Let's look at a situation and see how to use the framework:

The first thing we need to do is to differentiate between order and un-order: have we seen this before or have any experience that can be leveraged? If so, then the problem is ordered. If we haven't seen this before and it is truly novel, then this is something that we may be better off explor-

ing first; therefore, we treat it as un-ordered. If there is no time to consider the domain in which we are operating, then we should consider the worst case, not the most simple — which means that if is ordered, then deal with it as complicated and engage experts and if it is un-ordered, then treat it as chaotic and act in an attempt to stabilise the situation. This avoids oversimplifying the situation and fooling ourselves that we know the answer, only to find that we don't.

Considerations

There are a couple of general points that we need to discuss before we talk specifically about Cynefin practices. These relate to complicated and complex domains.

Groupthink/naivety: The issue with the complicated domain, the domain of experts, is that there is a tendency towards groupthink. There is value in groups as evidenced by the wisdom of crowds, which is based on the average view of a group of experts/experienced people in the area with the key point that the individuals are not allowed to engage each other. The participants may not disclose their guesses to each other and each estimate must be made in isolation to avoid participants influencing one other. This is not necessarily practical on a day-to-day basis so we need an effective strategy to address this and to improve information scanning.

Alfred Sloan said, "Gentlemen, I take it that we are all in complete agreement on the decision here. Then, I propose that we postpone further discussion... to give ourselves time to develop disagreement and perhaps gain some understanding of what the decision is all about."[4] The issue of groupthink can be addressed by engaging diverse groups of individuals and ensuring that some of these come from other domains of expertise and therefore provide a naive view.

The mantra is that there are no dumb questions, but you need people who are willing to ask such questions. Engaging experts from diverse domains can provide this. It is worth noting that President Franklin D. Roosevelt dragged people from one meeting to another if they were bright and he thought that they would provide an interesting point of view (Chip

4 Summing up of a GM senior executive meeting – see http://www.economist.com/node/13047099

Heath and Dan Heath 2013). Dave Snowden (Fitzsimmons 2014) tells a story of the engagement of anthropologists to study the management structure of a hotel chain. This gave rise to an interesting chapter in the report on the mating habits of the staff. This should be considered when you engage the experts.

Multi-hypotheses: We have talked about there being no clear answer in the complex domain, which means that we will have competing views. Remember, in this domain, cause and effect are not directly related so we have messy coherence and may be able to ascertain patterns forming over time.

We need to understand and accept that this is not bad in itself and sometimes needs to be embraced. This means that we are not looking for the right answer but for a series of ideas that we can test to find out what works, as more than one idea may be viable. The complex domain is the domain of multi-hypotheses, so aim to run a number of parallel experiments that test these hypotheses and maximise the potential for learning.

Conflict resolution

The use of multi-hypotheses is also a useful technique for conflict resolution. The hypotheses can be outlined and experiments run to determine which are valid and should be progressed. It may be the case that opposing ideas have validity and have benefit. See the portfolio forms in the portfolio-management section for an outline of the experiments.

There is a good example in the Heath brothers' *Decisive* where they discuss the largest direct-car-sales company in America. This started as an experiment to see if people would consider buying cars online and the response was overwhelming. The experiment had to be stopped as the company was losing money because the trial had them purchase cars from traditional dealers to meet the online orders. This type of issue is going to become more common in the future and we need a more flexible and comprehensive model.

Again, naivety has a role to play as we cannot assume that we know what will happen. As long as someone can make a coherent argument, their idea has value and should be explored.

Obliquity: The last point to make is that of the need to recognise the value of obliquity, which is the practice of achieving objectives indirectly. You may know that Apple doesn't focus on traditional management

measures but uses net promoter score (NPS) to assess satisfaction from the customer's perspective.[5] It uses NPS to guide its product development and marketing efforts. It does make use of traditional metrics internally but these are not targets in themselves.

To expand on this, I'll use an example from sailing. Whether sailing upwind or downwind, we are trying to get to the next mark as quickly as possible and the common metric used to indicate progress is VMG (velocity made good). VMG is a direct measurement that doesn't take into account all the other variables that are in play such as wind strength, point of sail, etc., so we typically use an oblique measure, which is that of target velocity. The boat's performance characteristics are used to determine the optimum speed given the wind strength and point of sail. The helm then steers the boat based on this indirect measure, which leads to optimisation of the VMG to the next mark (I would expect the navigator to have VMG on his instruments but not on the main instruments so the helm is oblivious to the direct measure).[6]

What we ideally want to use is an oblique approach, as this avoids the cognitive bias that comes from using a traditional measure that can be gamed. This is explored in John Kay's excellent *Obliquity: Why Our Goals Are Best Achieved Indirectly.*

Closing comments

Cynefin provides an approach and a set of practices for addressing the uncertainty that increasingly faces management today. It provides them with the means to realise that they are facing a messy, intractable problem and with the tools to enable them to make progress in this imperfect world.

This is a significant change from the more traditional approaches, which try to reduce a problem to a set of rational actions and acknowledges that

5 Interestingly you cannot optimise for customer satisfaction and shareholder value. See Roger Martin's "The Age of Customer Capitalism."

6 This also allows velocity headers and lifts to be handled, but a discussion of steering to targets is not the focus of this paper. You find dinghy sailors do this intuitively, hence the mantra of ease-hike-trim, and one of the issues that they have when moving to large boats is dealing with the array of information available on a typical race boat. If you are interested in this area, I suggest Will Oxley's recently published "*Modern Race Navigation*".

in some instances we cannot predict the outcomes. Instead of obsessing about predicting the future, we can move to controlling the future, and we therefore don't need to predict everything. This is the value of Cynefin. The portfolio-management section considers the practices related to the running the experiments.

PART TWO

Cynefin and narrative

Words are how we think — stories are how we link.

— Christina Baldwin

Oral narrative is and for a long time has been the chief basis of culture itself.

— John D. Niles

Narrative enquiry is an oblique means of investigation and has wide applicability. This paper uses it as an approach to business architecture but others have used it as an element of structured interventions. We are social in nature and some anthropologists consider *Homo narrans* (storytelling man) a more appropriate name for our species than Homo sapiens as narrative defines us (Niles 1999).

Each of us is embedded in our stories, which provide the context in which we live so we should not ignore them. In a social environment, the stories (Mankell 2011) and anecdotes that people tell act as prompts to others, so one story or anecdote brings other stories to mind and it becomes a virtuous circle: "That reminds me, do you remember when…." The difference between stories and anecdotes are that the latter are the short stories that we would tell around the water cooler or over a drink. They do not have the formal story structure of a beginning and an end with a theme and many subplots. Anecdotes are informal stories that reflect what actually happens versus what people would like to happen.

The practice of narrative enquiry is the use of anecdotes to establish the issues and to help make sense of what is happening. It has a number of advantages over traditional techniques. It is an oblique technique as the user is not asked direct questions, which ensures more openness and honesty. Oscar Wilde said, "Give him a mask, and he will tell you the truth,"[1]

1 This is part of the quote "Man is least himself when he talks in his own person. Give him a mask, and he will tell you the truth." from Oscar Wilde, "The Critic as Artist"

and so it is with this approach. Since they are not directed, people will mention things that they would otherwise be uncomfortable discussing. This leads to insights that would not available if we had taken a more direct path. There is also an element of serendipity to the approach, as we may start out with the intention of exploring a particular issue but find that other issues are also raised.

A second advantage of narrative enquiry is that it can exploit self-signification of the stories, which guards against the facilitators or other parties biasing the results (this supports the principle of disintermediation). In a traditional analysis approach, once we have conducted one or two interviews, human biases come into play as we start to look for stories or requirements that confirm the themes that we are seeing (this is confirmation bias at work). This means that the order of the interviews is important, and if we start with senior members of an organisation, the stakeholders, it will bias the other interviews towards their perspective. Cognitive bias, as a result, may make us miss important and relevant details when we then engage the people on the ground floor. For a simple example of mental bias, count the number of F's in the following text: "Finished files are the result of years of scientific study combined with the experience of years." Most people will count around three, but there are in fact six F's in the text. For a discussion of some of the more common cognitive biases, have a look at Jim Benson's excellent book *Why Plans Fail* (2011).

The use of stories allows people to access thoughts and feelings that are otherwise not available to them. This is because some knowledge is tacit in nature, meaning that a person doesn't know it until they need it (Polanyi, 2009). The police do something similar when they interview a person: they will ask what the weather was like at the time of the incident, which then puts the interviewee in the context (Dolan 2014).

Cognitive Edge's approach to this at the group level is the use of anecdote circles, but this can also apply at the individual or community level. In the former case, the core technique is used so the approach remains oblique in nature; for the latter, there is Cognitive Edge's SenseMaker product, which supports collection and self-signification at scale. As noted above, this paper is based on the use of the approach to support the establishment of a business's architecture[2] and is primarily based on individual engagement.

2 Some would say enterprise architecture but I'll not go into the difference here.

At the group level, we need to consider the dynamics, and groups should be seven to twelve members large (see the "Shared context and sense making" section for a discussion of group sizes). In addition, we ideally want to record the conversation and transcribe it. We engage at the individual level with an oblique question such as "If a friend was looking to join the company, what would you tell them about the organisation?" We are not directly asking them to tell us about the role or the issues they encounter day to day, but asking for what they would say to a friend. We may need to prompt them to expand on their answers, but we avoid asking direct questions about the challenges and the good or bad. Complex facilitation is lightweight in nature and we should only provide prompts when people seem to be struggling. This rarely happens in a group situation but it may be necessary at the individual level.

As part of the session, we also need to ask them to reflect on what they talked about. This reflection is the self-signification element and helps to establish the issues or points of interest that the anecdotes have raised. We are looking to capture small snippets of story and the self-significance that they gave to these. Write these up later and ask each participant to review them to ensure that the notes accurately represent the discussion and their comments. This means that any question about a specific aspect can be associated with the individual discussions, which supports disintermediation.

This approach was used to help shape an engagement and establish the heat map for a business function (a business capability: see Merrifield, Calhoun, and Stevens 2008). The business capabilities first were established using a form of linear contextualisation and then the narrative piece was undertaken separately. In this case, this helped to reduce the time commitments of the people involved and to provide more flexibility.

The response from the business was supportive. The approach has demonstrated that it can work at the individual level as well as at the more traditional group level and therefore has utility in this mode. I would look to use again as it does not require a large amount of preparation — but it does require that you transcribe the main points of the discussion accurately.

PART THREE

Shared context and sense making

Knowledge is not determined in advance of our experience; things of strategic and economic relevance are not waiting to be discovered, but are invented as we go.

— Robert Chia and Robin Holt, *Strategy without Design.*

Introduction

The Cynefin framework can be used in different ways: for categorisation, which is useful from a situational perspective; for contextualisation, which is useful in establishing a checkpoint and deciding what we want to do; and from a dynamics perspective – we are here and need to move to here, so this the journey that we need to consider.

With respect to categorisation, we are using the framework to understand which domain we are in, and therefore which approach (act/sense/respond/etc.) is the most appropriate. This is useful to ensure that we don't oversimplify the situation and attempt to address an un-ordered problem using traditional ordered techniques. This is a singular situation, but the exemplar narrative outlined below can help to determine which domain we find ourselves in.

In contextualisation, there is a need to work out where we are, given all the issues that we are facing. We may need to consider where the company is going and the challenges facing a project or programme that is in flight, or we may be looking at starting a new initiative. This is about making sense of the wider situation and, given all the challenges, working out what needs to be done, acknowledging that not everything is obvious.

A dynamics perspective addresses a need to move a part of an organisation or group of people in a certain direction, and we may exploit the

dynamic aspects of Cynefin to help. This may involve removing or loosening the constraints to see if we can change behaviours or create novel ones. This is complex facilitated management.[1]

In this section, we are exploring contextualisation, when there is a need to make sense of a situation among a large number of issues. This is the classic situation in which we are in danger of losing sight of the forest for the trees, and we need to pause and reflect in order to understand what needs to be done.

Contextualisation is one of the most useful Cynefin practices as it supports building shared context and purpose within an organisation. Here, the data precedes the model, unlike the traditional pattern of the model coming before the data. This may seem confusing initially but all we are doing in practice is loosening the constraints so as not to bias perspectives; therefore, we don't draw the model beforehand but let the domains and, in particular, the boundaries develop as part of the process. Although the Cynefin framework can be used for categorisation, as noted above, one of its most valuable uses is for development of a model that reflects the context and the uniqueness of each organisation. As English philosopher Gregory Bateson said, "Nothing exists without context."[2]

All of Cynefin's practices are participative in nature. It engages the people of an organisation directly and not via some third party, which ensures that there is no disintermediation. The conclusions come out of the dialogue and are not sprung on people.

It is one of the harder practices to understand, and while it is better experienced than explained, this paper nevertheless outlines the approach and provides some guidance on execution.

It is a lightly facilitated process. The facilitator merely provides an outline then leaves the participants to get on with it, which fosters shared learning. The main thing the facilitator must ensure is to allow the people to learn by doing, providing as little guidance as possible so that the participants freely express their own views. It is not necessary to provide a detailed overview of Cynefin other than to provide some context. This can be combined with the practices for defining and refining the actions that are outlined in the portfolio-management section.

1 This leads into ABIDE (attractors; barriers; identities; dissent/disrupt; environment) which is the Cynefin approach to management.

2 Paraphrased from Mind and Nature, A Necessairty Unity, page 14. Gregory Bateson, first edition 1979

Contextualisation

The intent of this practice is to develop a shared understanding of issues that face a project, programme, or organisation, and to make sense of what is going on. It is left to the participants to develop these insights. The approach supports three types of logic:

- Deductive logic — We have a large number of examples and we believe this is the general case.
- Inductive logic — Based on a small sample, we believe this is the general case.
- Abductive logic — Based on a hunch, we believe this is the case.

Most people know deductive and inductive logic as they are taught in most traditional schooling, but few are familiar with the last. Deductive logic is commonly referred to as the only form of pure logic; it takes us from the general to the specific and we can validate it. Inductive logic is case-based reasoning, where we go from the specific to the general. Abductive logic is sometimes called the science of hunches and is typically how most scientific breakthroughs are made.

The term "abductive" is credited to American pragmatic philosopher Charles Sanders Peirce, who introduced the term to mean "guessing". "Ab" means back and "duct" comes from the Latin *duco* (to lead), so the word means "to lead backwards". We need relevant experience to be able to make such leaps. Gary Klein's writing on the power of intuition (2004) explores how we use intuition in the workplace and is well worth reading.[3] Not everything is based on analysis, which is an underlying theme in Cynefin.

Most external agents can apply deductive and inductive reasoning to a problem, but abductive logic requires deep understanding of the domain. The participative nature of Cynefin is important as this leverages the knowledge and insights of the people who are part of the organisation. These people have developed this deep knowledge over time.

This also touches on tacit and explicit knowledge. Michael Polanyi (2009) said, "We know more than we can tell," and it is the engagement in the exercise that allows this tacit knowledge to be accessed. By definition, this

3 There is also an interesting discussion on intuition in the Heath brothers' *Decisive*. They reference Hogart's work and note that this is only likely to develop where there is a learning environment.

means that any approach that attempts to extract or gain access to this knowledge by questions is limited as it makes the assumption that you know which questions to ask. This is basically a Catch-22 situation: if we knew what the questions were, don't you think we would know what to do? So don't look to over-constrain the situation, and if other issues arise as part of the exercise then they should also be included.

Please note that when we talk of disorder, we need to acknowledge that we are making an ontological error, but it is where we are most of the time. This is an inauthentic state, and the value of sense making is in learning how we can move towards an authentic state. However, this is dynamic, so we need to acknowledge that we will never achieve true authenticity. This also exists within each of the Cynefin domains, as the boundaries are not hard. Therefore, we should note that Cynefin is a dynamic sense-making framework. I am indebted to Mika Latokartano for providing the breadcrumbs.

Shared context

A shared context is developed by contextualisation — that is, establishing the issues that exist in this environment and how they relate. We are using Cynefin to develop this understanding of the issues so we are assuming that we are largely aware of the issues; there may be an issue log or list of questions that we are looking to make sense of. Note that I would not advocate the use of brainstorming as this constrains people (if you are in any doubt about this, read Klein). If we don't have time, then we ask people to prepare their own lists of issues/concerns beforehand and to bring them. We

Linear contextualisation and value-stream mapping

One of the issues I have with VSM is that it looks to optimise an existing process and therefore focuses on doing the thing right without asking whether or not we are doing the right thing.

As an alternative, I prefer to use linear contextualisation, which starts from the client perspective and works backwards to establish what would be appropriate. The advantage this has over VSM is that it allows us to consider changes to the process as part of the mapping process. This use of linear contextualisation came from Mike Burrows.

could also consider running a narrative exercise to establish the issues as part of the exercise.

Remember that diversity and naivety are key tenets of Cynefin, so it is desirable to engage other parties as they bring different perspectives to bear. If we are doing this in the context of a department, we should think about engaging those we see as our clients and suppliers, those that depend upon us and those that we depend upon, to ensure that we are taking a holistic view. We may want to keep this exercise internal to avoid washing our dirty laundry in public, but if this is the case then see if we can get people to act as surrogates for these external parties.

The ideal group size for this exercise is seven to twelve.[4] Nancy Kline (1999) mentions that twelve is as large a group as we want, as this is the size of group in which people are still comfortable expressing themselves. Similarly, we don't want a lot of small groups as we want to encourage diversity; don't form groups any smaller than seven members as a general rule. If the group is too large, consider splitting it into a few smaller groups. We need not be too concerned about ensuring the diversity within these groups, as this will emerge when we review the different groups' interpretations.

There are three approaches that we can use to support contextualisation: four tables, four corners, or linear. Of these, I prefer four corners. In the four-corners method, we start out with a large, blank piece of paper or a wall. For a typical group of around ten people, we will get away with a piece of A0. Don't try to create an A0 out of four sheets of A3 unless there's no other option as the edges of the individual sheets make boundaries that people will subconsciously exploit when placing the issues on the paper.

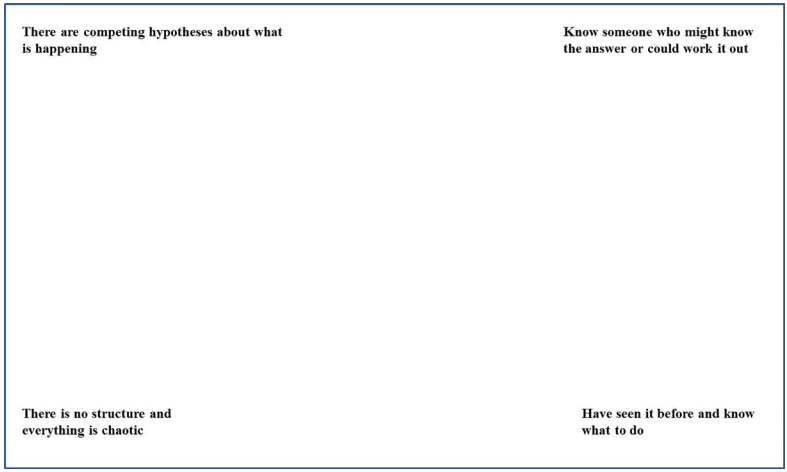
In each of the four corners, we place an exemplar, a sample narrative, of each of the four core domains of the Cynefin framework. These can be:

- Obvious — Have seen it before and you know what to do.
- Complicated — Know someone who could work it out with some analysis.

4 Jeff Sutherland in his last book maintains that the best group size is five to nine, but this is a different context. What he is looking at is the smallest group that has all the skills necessary to do development.

- Complex[5] – There are competing hypothesis about what is happening.
- Chaos — There is no structure and everything is chaotic.

The outline below shows how this should look:



The process is to write each issue on a small piece of paper (for example, Post-it notes) and then place these on the piece of paper one at a time based on where they sit between the exemplars. Remember that there is fifth domain called "disorder" for items whose domains we have not yet determined. Place these in the middle for now.

There is no right or wrong position for an issue, as the placement should be based on the individual's opinion of where each sits relative to the exemplars — for example, "It was not completely obvious but if we undertake a bit of analysis, I'm sure we can find an answer so this fits around two-thirds of the way from the bottom to top on the right hand side." Issues fit not only between any two of the exemplars but among all four. We may need to remind people of this until they get the hang of it (we only advise if we think this problem may be compromising the group).

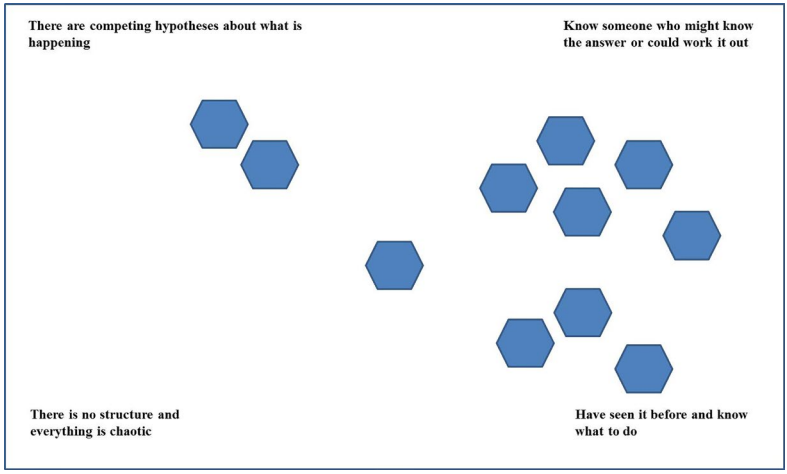
We are emplying an oblique practice here, so although we are looking at developing a shared understanding of the issues that we face, we are also managing for emergence and insights that may help establish the

5 The original text here was "We have no idea but in hindsight it was obvious what was going on." I've noted that Dave Snowden had changed this in a comment on a blog post and thought the new text more relevant as it focuses on the now, not the past.

direction in which people want to progress.[6] These are the "Aha!" moments when we realise something and a lot of the little pieces fall into place. This is why it is important to engage our people. They are the ones who have the deep understanding, as they are immersed in what is going on and therefore are capable of these insights. Few consultancies will have this level of knowledge of our organisation's operations and certainly won't have a deep understanding of our organisation's context. Since the approach is participative in nature, the buy-in to any ideas will be more straightforward, as the group has been involved in developing and refining them.

The process is summarised in the following steps.

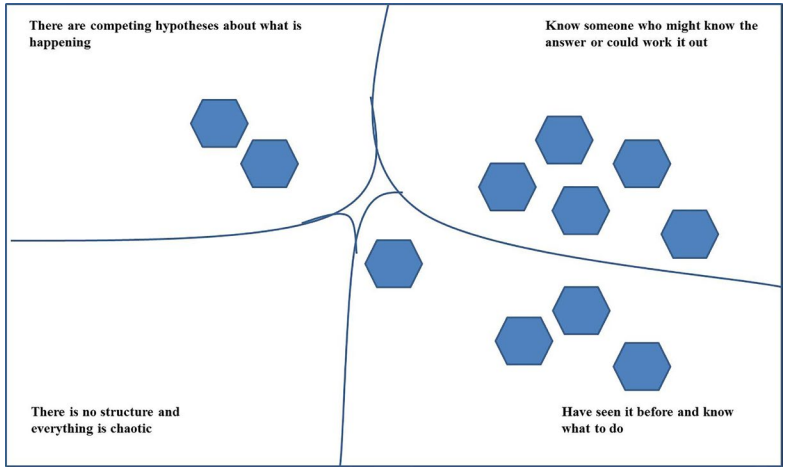
Position the issues on the wall based on association with the exemplars. This is not an absolute position but based on how we think each issue relates to each of the exemplar narratives. I must stress that we should not allow people to place an issue directly on any corner — for example, in the bottom right corner if an issue "is just obvious". Nothing is ever as simple as we think. There may be complications, and therefore we may want to see it placed a bit towards the top to indicate this.



After placing all the issues, we want to draw the domain boundaries, which are defined by where the issues have been grouped. We ideally do this with tape that we can move until people are happy with the placement (remember the fifth domain that can hold issues that are not yet determined). If people cannot agree whether an issue sits on one side of a

6 Direction is not the same as strategy. Strategy is the means that you use to move in the direction and fulfil the purpose.

boundary or other, then we ask them to consider if there are in fact two issues, and whether they could be split into two with one placed inside either associated domain.



The borders give us a set of contextualised issues that we can start to work on. Remember to keep an ear open for insights that come out of this exercise, which are instances of abductive logic.

Each business is unique so the solutions that have worked for other organisations may not be ones that work in this context. Beware the adage "If I have a hammer then everything looks like a nail," and beware of people who have quick fixes or who believe that they have an answer that worked for them in some other context.

The next phase is the development of a series of initiatives that start to address the key issues that we have identified, embracing the insights that have come out of the exercise.[7] Remember that there may not be a strong justification for an idea, but as long as there is a coherent argument it should be considered. This approach to development and refinement of the initiatives is covered in the portfolio-management section. It discusses the use of portfolio forms and ritualised dissent to review and formalise these initiatives.

7 Do make sure you keep the maps as these are a useful source of other initiatives. Once, we were discussing initiatives after finishing an exercise when I turned around to find one of the programme managers removing and grouping the stickies from the wall. Fortunately, I had taken a photo!

Closing comments

We can use these techniques when considering direction to help inform strategy, when starting a new project, or when forming a new team and wanting to accelerate the gelling process by developing a shared context and to ensure alignment of purpose. The linear-contextualisation approach is also useful if we need to review workflows, and provides an alternative to the lean practice of value-stream mapping.

The technique is scalable and we need not limit involvement to twenty or thirty people. It is possible to run this for whole departments or organisations and involve large groups of people —which makes for some interesting discussions.

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Resources

Hexagon stickies are available from http://www.logovisual.com/shop/lvt-products/hexagon-sticky-notes/. Go for the small ones. These have two glue lines and are more durable and stay flatter when attached than any with a single line. Cognitive Edge also has these in stock. But we can also use traditional Post-it notes.

PART FOUR

Portfolio management

Failure is instructive. The person who really thinks learns quite as much from his failures as from his successes.

— John Dewey

It was an idea, and ideas stood (or fell) because they were strong enough (or too weak) to withstand criticism, not because they were shielded from it. Strong ideas welcomed dissent.

— Salman Rushdie, *Joseph Anton: A Memoir*

Introduction

One of the core ideas of Cynefin is the use of safe-to-fail experiments to determine how we want to evolve the system. This needs to be done within the context of the direction in which we want to develop, which is the subject of this section. As Seneca the Younger said, "If one does not know to which port one is sailing, no wind is favourable." This approach supports the use of the scientific method (see below) to determine what works and has value.

Since another of Cynefin's key tenets is the exploration of multi-hypotheses, and there will be a number of experiments and portfolio forms to control these tests. The term "portfolio" is well understood in organisations, which typically have processes for organising and managing them. There are different templates for the complicated and complex domains: these need to be treated differently since one is the domain of good practice and the other the domain of emergent practice.

An alternative view holds that these small experiments should serve to pre-qualify the portfolio options and ensure that there is a balance to the portfolio. This has a number of advantages — the first being that it vali-

dates initiatives before there is any large commitment or expenditure. It also clarifies what constitutes success and allows exploration of multiple ideas when this traditionally could not be accommodated. Additionally, it allows for the development of a balanced portfolio that can deliver some business value, and is not only focused on hygiene-driven change such as system maintenance, upgrades, or regulatory or legislative change.

Cynefin also includes a practice for rigorous review of the proposals before presenting them to senior management (here meaning managers with authority for budget approval). This ensures that the ideas are well developed and the success criteria are well understood.

This is a lightly facilitated process, which means that the process is outlined and then the participants are left to get on with it, fostering shared learning. We run multiple, small, parallel, safe-to-fail experiments to maximise organisational learning. The facilitator must leave the people to learn by doing, providing as little guidance as possible, so that they express their own views and the facilitator does not bias the outcomes. Once a number of people have exposure to these practices, they can perform them with no external facilitation in an on-going basis.

Background

We need to distinguish between ideas and options. Ideas are what Martin, in *Playing to Win,* calls "possibilities", and he stresses the need to explore all the possibilities to establish the options. In Cynefin, we talk of hypotheses, which are basically ideas, and the exploration of these as long there is messy coherence — that is, someone can make a coherent argument for a particular hypothesis. We are not trying to establish if a hypothesis is right or wrong, only that there is enough coherence to support an experiment. The implication is that we remove the need for a formal justification for an idea as we are looking to validate them as part of the establishment of options.

The key to the validation process is the application of the scientific method as advocated by Karl Popper:

> We never argue from facts to theories, unless by way of refutation or "falsification". This view of science may be described as selective, as Darwinian. By contrast, theories of method which assert that we proceed by induction, or which stress verification (rather than falsi-

> fication)… are typically Lamarckian[1]: they stress instruction by the environment rather than selection by the environment.

We are looking to maximise learning and invalidate an idea, not substantiate an idea. In this way, what we are doing is in fact similar to what Lean Startup does, but unlike it, we are looking at multiple ideas to accelerate learning. If you are struggling for ideas then a future backwards or contextualisation exercise may be worth running but most organisation typically already have a list of ideas or problems that they would benefit from addressing.

You will recall from the first section that complex systems are dispositional in nature, meaning that they are disposed to move or evolve in a certain direction, but we cannot determine causality so the only way we can manage this type of system is by probing, sensing, and responding. That is, we run a series of experiments to see if we can move the system in a direction that is desirable or beneficial to us.

In the complicated domain, in comparison, we manage by sensing, analysing, and responding. Here, we are looking for someone or a group of people who could determine what is desirable based on sensing and analysing the environment. The sensing may be based on existing data or we may need to undertake an experiment to collect the data to support analysis.

For each of the ideas, we are looking to outline an experiment that will invalidate the proposal as quickly and as cheaply as possible. As the management approaches to the two domains are different, there is a template for each domain. Note that there are no templates for the obvious domain, which only requires us to get on and do it (conventional project management works fine), and for the chaotic domain, which needs action that is novel. Since the complex domain is non-linear, we also need to consider an appropriate dampening strategy as stopping the experiment may not be sufficient.[2] There is also the domain of disorder, which provides a placeholder for items whose position we have yet to determine.

In summary, this is how we approach the initiatives in each of the domains once they are identified:

1 Lamarckism is the idea that an organism can pass on characteristics that it acquired during its lifetime to its offspring.

2 Sometimes referred to as the "Mail effect" in the UK, because if an issue is published, just denying it is not normally sufficient!

Obvious — Just do it, as you have seen it before and it should be obvious what needs to be done (this is after all the criterion for it being classified as obvious). It should just be a case of what resources are needed and whether you have them.[3]

Complicated — You need to involve a group of experts or knowledgeable individuals to undertake the analysis. Remember to engage related experts to honour the principle of requisite diversity and to bring naive views to bear to avoid groupthink.

Complex — What are the viable (that is, coherent) hypotheses and therefore what are the experiments that we are proposing? Remember, this is the domain of messy coherence and therefore we cannot predict the outcome, so we need to undertake a series of experiments to see if we can move in a desired direction (this being where you want to move or at least start to progress towards).

Chaotic — This is not often encountered during planning as this is normally a dynamic state that doesn't exist for long. We want to do something to move the problem into the complex or complicated domain so that we can start to get a handle on it.[4] Remember, we approach this domain based on act-sense-respond, so someone just needs to propose an action and then we go from there.

We then need to rigorously review these safe-to-fail experiments to ensure that the ideas are fully developed before presentation to senior management for sponsorship and funding. As noted in the introduction, we should explore any idea for which there is a coherent argument as the ideas are not necessarily mutually exclusive and there may be value to be gained from progressing more than one. This can be thought of as establishing the options, as an option is something that provides a choice.

The Cynefin practice of ritualised dissent is used here to review and validate the initiatives and this is something that most organisations are not good at. It is all too common, due to the siloed structure of most organisations, for the initiative of an individual or a small group to go without wide review or support. This technique ensures a wide review and therefore that the idea is more likely to be complete and supported.

3 There may be a need for capability building, but that is not the subject of this paper.

4 The term "management" can be taken to be "man handling", as manage is derived from the Italian word *maneggiare*, which means to handle, which in turn derives from the Latin *manus* (hand).

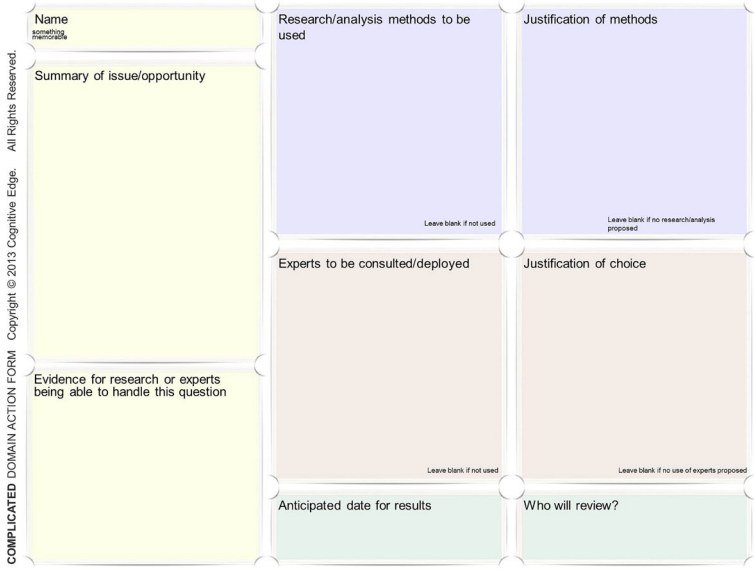
The ideas behind the practice are similar to neuroscientist Vincent Walsh's idea of trashing, in which a proposal is rigorously critiqued to ensure that it is fully formed. This practice ensures an objective review of the idea and removes the subjectivity.

It should also be noted that this leads to more centralised control than is typical within most organisations. Some people will not see this as desirable but it has the benefit of breaking down barriers both horizontally and vertically within an organisation.

Complicated portfolio template

This is the domain of experts, so the focus is on establishing who needs to be engaged — but with a twist. To improve information scanning, we want to ensure requisite diversity by engaging people who are not familiar with the domain. This brings a degree of naivety and ensures that different views are brought to bear (before execution and not as an afterthought!), so consider other groups that may have value in addition to the groups that traditionally exist. These can be acknowledged experts from other areas of the organisation that would typically not be engaged or they could be external agents. What they should not be are other people in the function/department in question, as there may be a conflict of interest and you are not increasing diversity. The outside experts do not need to know the field we're working on but should be knowledgeable in the area in which they work. Remember President Roosevelt, who dragged bright people from one meeting to another to learn their perspectives.

The complicated portfolio form is composed of four sections: three boxes on the left that describe the initiative, two boxes on the top right that cover the approach to be taken, two boxes on the middle right that cover the resourcing, and two boxes below those that cover expected completion date and formal review (sign off).



Name: This should describe the initiative distinctly and resembles what is done in A3 reports (Shook 2010).

Summary: This needs to detail the problem or opportunity in complete, standalone sentences. Remember, we are trying to establish the problem and not the solution here.

Evidence: This is a sense check to indicate why we think we can resolve this problem. If we cannot answer this, we may be operating in the complex domain and may need a different approach. Do not use tautologies such as "the sky is blue because it is blue." This may demand some thought.

Research approach: Since this is the domain of the experts, how do we expect them to undertake the necessary analysis to determine causality? It may be necessary to talk to people with related knowledge to establish a possible approach.

Research justification: In addition to outlining the approach, we need to justify it to ensure that we are being realistic. Why do we believe that the approach is valid?

Experts required: Remember that we want diversity in the people engaged so we need to not only consider which experts we would typically involve but also who else could provide a naive or original view. They

can be experts in associated fields to ensure that groupthink does not become dominant.

Experts justification: This is why we think that the people we have suggested are appropriate and should be involved.

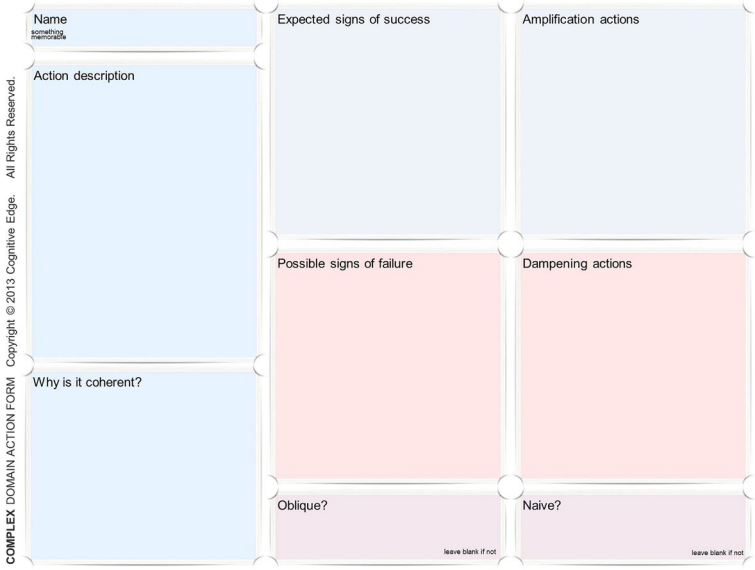
Anticipated date: This is the date by which we will complete the proposal. We may want to think about the prerequisites and the associated lead time when determining this. Note that this box doesn't say "expected" or "planned" as this is intended to be indicative — this is a portfolio and not a project document. When we get into the detailed planning then we may need to revise this.

Reviewer details: Who will review the outcomes and approve the subsequent steps? This may be the management team or head of department who will approve the funding to implement the initiative.

Complex portfolio template

This is the domain of multi-hypotheses so we expect there to be more than one by the nature of the domain. Remember that any idea that appears coherent may have value and should be evaluated. The objective is not to determine what should be done but what probes (experiments) would help clarify the situation.

The structure of this template is similar to the complicated portfolio template with four sets of boxes: three on the left define the initiative, the top two on the right hold the signs of success, the middle two are for signs of failure, and the bottom two list additional attributes that we should consider. Note that there is no date on the form, but we should have a view of how long the experiment will take.



Name: Again, this should accurately describe the proposal.

Action: This describes the proposed probe or experiment.

Why is it coherent?: This is the justification. We are not trying to say that it is right, but explaining why we think it makes sense. If we can't justify it then we don't really have a basis for the proposal.

Signs of success: These are the things that we think indicate success. We may express these as some impact that we believe we would see, such as less defection of clients.

Amplification actions: What actions would we take if we start to see signs of success and want to increase the benefits?

Signs of failure: These are signs that the probe is potentially not successful, and may not simply be the opposite of the signs of success.

Dampening action: How would we deampen the action if we detect a failure? In the complex domain, stopping the experiment may not be enough and there may be other actions that we need to undertake to achieve this.

Obliqueness[5]: Have we considered the obliqueness of the probe and how have we exploited it?

5 Obliqueness and naivety are discussed in the introductory section.

Naivety: If we are embracing naivety, how are we leveraging it?

The last two boxes serve to remind us to consider these criteria. Note that the actions are necessary but should be seen as an adjunct to the act of portfolio management itself. Portfolio management is about determining what experiments we are willing to fund, while the action forms relate to the management of the experiments themselves.

Portfolio initiatives review

One of the most useful simple practices is that of ritualised dissent, which is used to review and refine the proposals. If we do want to use this practice to review proposals, we can do it as part of a workshop or establish a review body with members drawn from each of the teams or functions to ensure diversity.

The quality of ideas that can come out of such a session is amazing. It can also lead participants to buy in to the plan. Often, the more difficult people, who are always questioning proposals, provide useful comments. It engages these people, who therefore will not later stand on the sidelines throwing rocks; it fosters what Russell Ackoff called "agreement in practice and not just agreement in principle"[6]. If we have the opportunity, we can ask people what would need to be true to support the hypothesis. This moves them away from thinking of barriers and allows us to start looking at what we need to invalidate an idea, as these are just the opposites of what it would take for it to be true. This also brings focus to the discussions.

In this practice, one person from each team, or the person who is making the proposal, presents it to an alternative team or a panel of reviewers. A panel of reviewers requires us to ensure that a wide range of interests is represented. We may want to consider selecting one person from each of the different functions and rotating the membership on a regular basis.

The presenter has a few minutes to outline the initiative during which no other person is allowed to speak. They can take notes for later discussion but they must allow the presenter to speak without interruption. Once finished, the presenter disengages from the group by hiding their face — donning a mask, if available, or turning their chair so that their

6 Russell L. Ackoff, The Democratic Corporation, pages 81–83

back faces the group. This prevents personality from becoming involved in the review, keeps the presenter from feeling personally criticised, and ensures focus on the presentation.

The group members may now express their views of the idea, particularly what is wrong with it, and they should not hold back as this is about ensuring that all aspects are covered. There are no guidelines here but you could consider the clarity of details, the value proposition, whether dampening has been considered, etc. Again, this is not a debating forum so only one person at a time should speak until each has voiced all their concerns. People may find that comments made by others raise more concerns, which in turn should be voiced. During this, the presenter takes notes of the points raised for consideration in a revision of the initiative. We are trying to ensure that the initiative is reviewed objectively and the individual is not involved.

When the group has finished expressing concerns, the presenter takes the ideas back to the original group or goes off to revise the proposal to address the points that have been made. In a workshop setting, we can pass through a series of cycles to refine the initiatives that have been documented.

This simple practice takes advantage of the expertise and knowledge of the organisation to ensure that any initiative is well formed and has been objectively reviewed before presenting it to management for sponsorship. It is not the function of the reviewers to reject proposals, which is the prerogative of management, but to improve them. When you see this done, it's interesting how quickly an idea can be substantiated and formed. As noted above, it is similar to the trashing sessions that Vincent Walsh advocates.

Portfolio management

The outcome of the initiative review is likely to be a series of robust initiatives that should be considered for implementation. It is down to management to approve and fund these, but it is unlikely that all of them can be supported, due to resource and cost constraints. Therefore, before the workshops, or before presentation of ideas, we should think about the criteria for funding.

We may have to address a series of strategic themes, business priorities, and ensure that the initiatives are balanced and not biased towards one particular area. Also, if we are dealing with complex issues, we want to have multiple initiatives. In the complicated domain, it may be more straightforward as there is likely to be only a single initiative within a theme, but there may be multiple competing ideas from different teams or areas of the business, and we should explore these. These are only elements that need to be considered as part of each organisation's approach to exploiting Cynefin.

Closing comments

The practices are simple in nature, but allow us to start to embrace complexity and not avoid it. After experiencing one of these types of engagement, anyone can run it. This means that once an organisation has experience, it can use them internally for other initiatives without external facilitation. This is one of the strengths of Cynefin: the practices are simple and easy to exploit once we have basic knowledge of the techniques, and we don't need a deep understanding of the underlying theory of complex systems.

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PART FIVE

Cynefin dynamics

We would expect that introducing additional constraints into a complex environment will make it ordered but, paradoxically, over-constraining a complex situation leads to chaotic behaviour. People introduce constraints that don't always fit the situation because they are attempting to treat a complex problem as one that is ordered and arbitrarily use traditional management approaches that are not applicable.

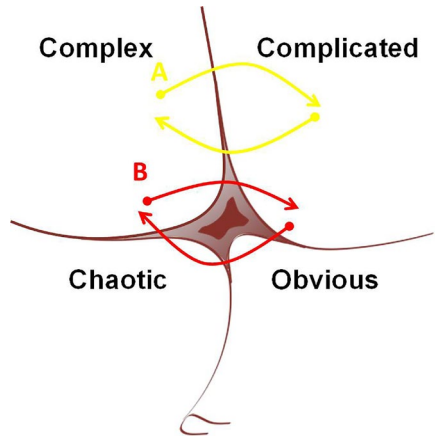
Remember that Cynefin is about bounded applicability, and we can use exemplars to determine the context to ensure that we respond in an appropriate manner. Kim Ballestrin (2015) uses simple language to assess whether the problem is simple or complicated (remember, chaotic is transitional), and if there is a need to approach the situation as if it is complex. I like this but think that the same exemplars used for contextualisation (see the section on sense making) can be used. These are "Is it obvious?", "We know what to do," or "We know someone who can probably provide an idea with some analysis." Otherwise, the problem is complex in nature and traditional practices shouldn't be used.

There are also times when it is useful to be able to move a problem from one domain to another. We may start out in complex, establish what needs to be done via safe-to-fail interventions, and move into the complicated domain in terms of execution. There are other situations where we find ourselves in a highly constrained, ordered situation and may benefit from moving to enable exploration. The analogy that I find useful is that of gybing of a boat, in particular a dinghy. When sailing, we are trying to keep the dynamic forces in balance to head in the direction we desire. We do this by small changes to the direction of the boat via the tiller and trimming the sails. When the boat is in a stable state, its direction is predictable. When it comes to gybing around a mark of the course, we want the boat to turn quickly so we intentionally put the dinghy into an unstable state as this increases its rate of turn. The trick in a dinghy is to control the initiation of the gybe. We do this with a short, sharp reversing of the tiller so that it happens when we want it to. Once we have completed the gybe, we move to put the boat back into a stable state as quickly as possible.

Some books advocate operating on the edge of order at all times as this increases the agility of the organisation, but as the authors point out in *Simple Habits in Complex Times* (Garver Berger and Johnston, 2015) people don't like ambiguity. We all require some degree of certainty, which means that causality needs to apply; therefore, we are better to think of this as a shallow dive into chaos (note that in Cynefin, chaos is regarded

as a transitional state as it does not persist for long). This is basically what we want to do to support exploration and this is the area of Cynefin dynamics. We may be able to use an existing crisis or, as advocated in the introduction of *Learning to See* (Rother and Shook 1999), create one.[1]

This gives rise to two situations where moving between domains is of value: one where we want to move from exploitation to exploration and the other where we want to increase the organisational agility (rate of change).



In the first case (marked A in the diagram to the right), we have encountered a problem that is messy in nature.[2] We may or may not realise that this is complex in nature but we would benefit from dealing with it as complex as we can use probes to see if we can move the situation in a desirable direction. The point to remember is that this should not be about a single experiment (probe). If there are competing hypotheses, we should explore all of them, so the path from complicated into complex may split into multiple paths of exploration. The resulting series of safe-to-fail probes will then lead to a series of options that may be then exploited in an ordered domain.

In the second case (B), where we want to create a change in an organisation, we can move the issue intentionally (or let it collapse) into a chaotic state. This is more a challenging art than a science, but we are looking to enter a shallow dive through chaos to invoke a change of direction for the organisation. The path in this example may be from complicated through chaos and complex back into an ordered domain. The first step is creating the crisis or letting it develop, and this is not addressed here. The thing to realise is that the chaotic element needs to be contained and we need to look to move out of this domain as quickly as possible. What I find useful is to use this to explore the direction that we want to take and then

1 The American politician and mayor of Chicago Rahm Emanuel told a Wall Street Journal conference in 2008, "Never let a serious crisis go to waste."

2 What Ackoff called "a mess" — see http://en.wikipedia.org/wiki/Wicked_problem

use complex domain practices to explore the competing hypotheses. This means that the cycle can be executed quite quickly if there is management support. Without such support, the organisation may drift into a chaotic state and linger there, which is not at all desirable (we sometimes hear of companies in crisis, and I think this describes them well).

These are just two examples of Cynefin dynamics — there are other patterns that we may observe over time. The use of Cynefin to explore these should allow us to understand what is happening and how we can exploit that to achieve desirable change.

Further reading

Although not referenced directly, the following books have influenced the development of the Cynefin framework, are listed on http://cognitive-edge.com/resources/influential-books/, and are well worth reading.

Cilliers, P. (1998) *Complexity and Postmodernism: Understanding Complex Systems.* Routledge.

Paul Cilliers wrote, "If something really is complex, it cannot be adequately described by means of a simple theory. Engaging with complexity entails engaging with specific complex systems." He thinks we can model complex systems, but I believe most models are inadequate and time is never on our side. Jamshid Gharajedaghi (2005) relates an anecdote:

> A minister of economy in my native country once asked me to help him assess the impact of a certain decision on three important factors he was concerned with. I told him it would take me a month to develop the proper model. He replied, "The decision is going to be made without you. If you want to have any influence on this one, be in my office with your model at 7:00 a.m. Monday morning. Otherwise, get the hell out of the way."

One of the main advantages of Cynefin is that it provides a set of simple practices that allow us to engage directly with a complex system and avoids the need for modelling.

Juarrero, A. (2002) *Dynamics in Action: Intentional Behavior as a Complex System.* Bradford Book.

Alicia Juarrero puts forward that causes can be considered dynamical constraints — that is, constraints not only constrain but also give rise to action. This means that we have two types of constraints, those that she refers to as context-free and those that are context-sensitive. The latter are the enabling constraints that lead to higher-order behaviour: emergent behaviour that can't be predicted and is therefore complex in nature.

About the Author

Greg Brougham is a systems and technical architect specialising in card and payments systems. He has worked on the renewal of the main UK domestic clearing and settlement system and a similar system for one of the major card companies. It was while working on the latter that he thought that there must be more effective means of delivery than the prevailing approaches, which were preoccupied with utilisation. This led to a review of the prevailing management literature and an interest in the theory of constraints, systems thinking, lean, and, more recently, complexity (in particular Cynefin) and the cognitive sciences.

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