

# ***One Team: Where Worlds Collide***

The Development of Transcoherence for Tackling Wicked Problems

by

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## Candidate's Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university. To the best of the author's knowledge, it contains no material previously published or written by another person, except where due reference is made in the text.



Craig Ashhurst

Date: September 13, 2019

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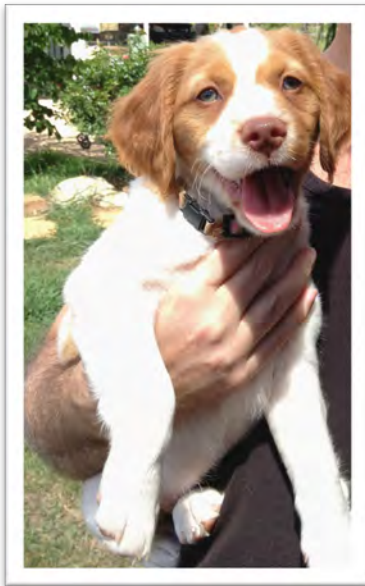
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# Abstract

This thesis is concerned with teams. In particular, multidisciplinary teams that are exploring complex public policy development in relation to problems identified as *wicked*; in that they resist existing solutions. The mix of expertise in these teams frequently leads to collisions of conceptual worlds among the team members. In addition, these conflicts may also occur along social faultlines that reflect an individual's membership in other collectives outside the team. The result can be an increase in discordance between team members and a fragmentation of effort, leading to poor team performance. This has been recognised in the literature as a major cause of project failure when addressing wicked problems.

I address this phenomenon through the study, over the course of a year, of the lived experience of a specific heterogeneous team that were working on the wicked problem of reconceptualising access to justice for all Australians. I combined this data with theoretical frameworks from multiple disciplines. The findings contribute to the existing body of knowledge in the following ways:

## Increased understanding of a multidimensional problem

My exploration of the rich and entangled nature of the lived experience in heterogeneous teams found a larger mix of conflicts than is usually described in any of the individual streams of literature. In addition, there seemed to be no single term in the literature that adequately described the complexity of the collisions that I observed. In response, I propose an umbrella term, *incoherence*, to incorporate the multiple terms used to describe the reaction to and result of these collisions.

Whereas the disciplinary literature tends to identify social groupings that align with a discipline's academic history, data from my field work uncovers multiple groupings that should all be included as the basis for social faultlines. I therefore propose an umbrella term and concept which can incorporate any of the underlying social groups found in heterogeneous teams: *collective coherence*.

## Understanding of a potential desired future state

There is agreement in the literature that team conflict should be resolved, but not on how this should be achieved. Instead, proposed solutions are fragmented and often contradictory. My thesis aligns these fragments through the introduction of a third umbrella term, *transcoherence*, defined in this study as:

- an individual's **ability** to consciously straddle different intellectual worlds, and
- a multidisciplinary group's **capacity** to reduce social faultlines and develop synergies.

## **Understanding the changes required for heterogeneous teams to move from the current fragmentation to a coherent future state**

For a team to build a *transcoherence capability* requires a means of dealing with the sense of *incoherence* that comes from collisions of worlds. Incorporating learning theory from multiple disciplines, I developed a version of a triple loop learning model as a heuristic to demonstrate the multiple ways in which people respond to and manage incoherence. Each loop of steps starts from and returns to 'coherence in equilibrium', the state of rest in the system.

The three loops are not hierarchical but show qualitatively different possible paths to responding to incoherence. The first loop considers *accretion* of new information assimilated into an existing coherent structure, gradually adding to a group's body of knowledge. The second loop is where dissonant schema can be held up for inspection and then *accommodated* into collective coherences in a way that expands the repertoire of schema that can be drawn on to make sense of novel situations. The third loop is the domain of paradigms, grand narratives, worldviews, and ideologies. At this level, alternative collective coherences need to be made explicit and incoherences *transformed*, that is, a major rearrangement of the structure of the original coherence.

### **The use of action research**

I designed the research to be interactive, multilayered, iterative, qualitative, and transdisciplinary. I chose an overarching bricolage methodology, combining multiple methods of data collection, both formal and informal. This was possible as I was embedded in the team for a year as the person tasked with the role of facilitating collaboration. This gave me an opportunity to assess the opportunities and limits of *catalytic facilitation* in participatory action research. By this I mean that processes in the project were not controlled solely by the head of the project, nor did they function spontaneously. Rather, I was asked to join the team as *facilitator* of the *collaborative process*, to act as a catalyst, increasing the potential of the interactions of the various experts connected to the research.

The multilayered nature of the research is reflected in the thesis structure, which is based on two metaphors. The macro structure uses the metaphor of a musical symphony made up of three movements: (1) setting the scene, (2) collisions of collective coherence, and (3) bringing it all together. Placed between each chapter are interludes, short pieces that provide a description of a theoretical concept that offers insights into how diverse groups can reduce conflict and develop synergy.

Within each chapter is another, more detailed structure, a combination of theory and practice. Here I employ the metaphor of a tapestry, weaving together practice

(weft) and theory (warp). This micro-structure offers a singular argument for each chapter, that is both complete in itself, and also a part of the whole argument of the thesis. Each chapter is prefaced with a story based on a critical moment of the team's experience, followed by observations and comments from those involved: the weft. For the warp, I focus on a particular theoretical perspective most relevant to the opening story. Finally, I conclude each chapter by weaving these elements together to propose possible interventions to improve the group's transcoherence and thereby increase their capacity to tackle wicked problems.



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## List of Acronyms and Abbreviations

A2J2	Access to Justice (Mark II)
APS	Australian Public Service
APSC	Australian Public Service Commission
BAU	Business as usual
DHS	Department of Human Services
FaHCSIA	Department of Families, Housing, Community Services and Indigenous Affairs
IDCG	Interdepartmental Collaboration Group
MBTI	Myers-Briggs Type Indicator®
ZAI	Zone of acceptable innovation





# Prelude: Introducing Multiplicity

A 'prelude' is a musical term referring to a short piece played at the start of a performance, introducing the various motifs and themes of the major work to follow (Thomsett, 2012)<sup>1</sup>. This written prelude fulfills the same role. It sets the tone for this thesis, touching briefly on the many elements that are to be explored fully in the following chapters. I have grouped the elements of my prelude under the headings of structure and metaphor, themes, theory, and stories and graphics.

## *Structure and metaphor*

The practice of writing doctoral theses has a long tradition with associated expectations of structure and approach. Being transdisciplinary, this thesis will challenge many of those expectations because it ranges across multiple experiences and theories rather than drill deep on a specific few (Willetts & Mitchell, 2017). Describing it as a piece of music, a symphony, is one of two primary metaphors I will use to describe its unusual structure. The other is that of a tapestry, a weaving of warp and weft that combines to create a total work of art. I am using metaphor here in its broadest sense as "the description of one thing in terms of another" (Carew & Mitchell, 2006, p. 220). Multiple metaphors will be used throughout this thesis because they "have the advantage of making new concepts accessible through the use of pre-existing understanding" (p. 228).

The metaphors of music and art each help to make sense of the thesis in different ways, because each contains a sense of inherent structure that can be drawn on to explain the relationships between the sections in the work. For example, a symphony is a large musical composition containing a series of separate but linked movements with additional interludes, that together create a coherent auditory whole (Libin, 2014). The movements can be of different lengths and internal structures. This is reflected in the macro structure of the thesis.

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<sup>1</sup> The APA Referencing style (VandenBos & Skutley, 2010) is used throughout this thesis

The micro structure of the thesis is found within each chapter, where I use the tapestry metaphor, a weaving together of practice (weft) and theory (warp). The weft is the ‘lived experience’<sup>2</sup> of those involved in my research project (including myself). It also includes related stories, interviews, emails and documents. These will all be combined with collections of diverse and relevant literature: the warp.

My reason for using multiple metaphors is multifaceted. First, as this thesis contains an unusual combination of elements, referring to it as both a piece of music and a tapestry enables me to capture and express the whole, by tapping into the ‘tacit’ (Polanyi, 1966) understanding of the reader through multiple images.

Second, I hold the belief that metaphor is helpful for breaking out of traditional forms of thinking (Bowes & Katz, 2015; Dorst & Pasma, 2010). Each metaphor enables some types of thinking whilst constraining others (Lakoff & Johnson, 2003). Metaphors of music and art give me excellent leverage against the weight of tradition. They do this in part through presenting alternative coherent ways of thinking and being (Carew & Mitchell, 2006).

Third, I use the inherent structure of metaphor (Lakoff & Johnson, 2003) as both a *bridge* and a *boundary object*<sup>3</sup> between different worlds<sup>4</sup>. This will be described in detail throughout the thesis, but in general, metaphor allows different coherent ways of thinking to retain their own structure whilst generating a new compatibility by shifting meaning from a “literal incongruence to metaphorical congruence between two semantic fields” (Ricoeur, 1978, p. 147). It also taps into the multiple ways that humans sense the world, giving a richer feel for the topic under discussion. In other words, as Carew and Mitchell (2006) state, “metaphors allow us to explain, understand and explore complex, abstract or novel concepts using familiar terms and thought structures” (p. 221). This is particularly important due to the multiplicity of themes, theories, stories, and people in this work.

---

<sup>2</sup> Having a strong foundation in phenomenology (Pascal, Johnson, Dore, & Trainor, 2010), recently social policy research has been described as being on “the cusp of a large-scale adoption of the notion of lived experience” (I. McIntosh & Wright, 2018, p. 1).

<sup>3</sup> See Interlude: Overcoming Boundaries.

<sup>4</sup> Described in Chapter 1.



## Themes

There are many themes in this thesis and, like a symphony, some are major and dominate the work as a whole, while others appear only once, slipping quietly away after they have made their contribution. *Collisions*<sup>5</sup> is the central theme and appears in various forms throughout the thesis. Not just any collisions, but those that happen in a multidisciplinary team whose task is to tackle a wicked policy problem; where, although each member of the team comes from a different professional world, they are expected to be ‘one’ together in purpose and action.

Another characteristic of this type of collision is that they occur between *collective coherences*. I have coined this term to refer to the patterns held in common around which a group coheres. It will be explained in detail in the interlude, Clarifying Collective Coherence. It is also an *umbrella term* (Rodrigues, Correia, & Kozak, 2015) designed to encompass all the different technical terms used in the literature, without excluding their own specific meanings.

A second dominant theme in this thesis is *multiplicity*: multiple groups, teams, perspectives, worlds of belief, ideas, theories, themes, systems, findings, and so on. This is a thesis focused not on one particular element, but many; on not a few parts, but both parts and wholes. Each section of the thesis weaves multiple themes together. This leads to a multiplicity of theory, the subject of the next section.

## Theory

In this work are multiple theoretical frameworks, each with an important role. Like a cello in an orchestra, each theory will provide a deep, supportive, background sound, with occasional solos where it comes to the fore and demands attention. As a transdisciplinary piece of work, the theories come from multiple disciplines and areas of interest (Augsburg, 2014). The use of authors and literature will be indicative of the relevant theories, without attempting to be exhaustive. I consider this to be a reasonable tradeoff that results naturally from exploring the value of *umbrella constructs* (Rodrigues et al., 2015) rather than reductionist specialties (Hirsch & Levin, 1999).

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<sup>5</sup> Words and phrases in *italics* are significant terms.

## ***Stories and Graphics***

Two rich forms of communication - stories and graphics - are another thread weaving through this thesis. Stories capture the multiple dimensions and domains of human experience (Cunliffe & Coupland, 2012). In particular, they provoke an emotional response and give us insight into ourselves (Vickers, 2007). This can influence our “conscious and unconscious sensemaking over time” (Steinbauer, Rhew, & Chen, 2015, p. 405). Stories also contain patterns that we draw on to make coherent sense of reality (K. E. Weick, 1995). They do this by combining events, people, things, and retrospective perspectives on the totality of experience, revealing an ‘embodied sensemaking’<sup>6</sup> of the ‘lived experience’ of the everyday (Cunliffe & Coupland, 2012, p. 64). They therefore contribute to the discussion of my research findings, and the methodology I have developed to align with my research purpose (see Chapter 2).

The stories in this thesis are both biographical (from research participants) and autobiographical (from my own lived experience). Most of them come from the time of the case study research project, but in a few cases a bit of background, including my own, helps to make sense of people’s actions and beliefs. The use of stories also helps individuals to break out of the limited frameworks of thinking and being that we inherit from our family and working background (Steinbauer et al., 2015). Stories were used with the participants throughout the project for just this purpose.

Another means of breaking free of traditional ways of thinking is through the use of graphics. The use of the visual is central to my work, in how I think and communicate. There are substantial theoretical and practical reasons for combining visual with textual information (E. Margolis & Pauwels, 2011). Cognitive psychology, for example, has identified that thinking visually utilises different parts of the brain (Ware, 2008), enhancing creativity and amplifying thinking (Landa, 2002). Visual thinking also facilitates the representation of non-linear relationships (Plate, 2010). The visual permeates everything we humans do and, like stories, graphics are a rich source of data and means of communication. I use multiple types of visual elements throughout the thesis and have grouped them in the contents pages under three main headings.

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<sup>6</sup> This is addressed in detail in the Chapter: Nonsensical Ideas.

## Photographs

This group comprises photographs taken mostly during my field work.

## Figures

The second collection is the largest and includes all the different types of one-off figures. Some are fairly traditional, including information graphics (Harris, 1996) such as graphs and textual diagrams.

Others are of a type not usually found in academic writing, such as icons (Horton, 1994) and symbolic images (Frutiger, 1998). An example of these is the cover page graphic, shown in Figure 1. It visually depicts what I mean by the title of this thesis, *One Team: Where Worlds Collide*. The image is not intended to portray numerical data, like a graph, or to represent a real-life scene, but to act as a symbolic device in an attempt to communicate the strength and evocative nature of the collisions being explored. Presenting this visually can be more powerful than using written or verbal language (R. E. Meyer, Höllerer, Jancsary, & van Leeuwen, 2013, p. 513). Also, if a reader's learning style is more visual (Mestre, 2012), then this image will convey more meaning than the related text, spark an emotive response, and remain longer in the memory (Kelly, 2014).

**Figure 1.** *An image of one team: where worlds collide*



More controversially I use generic humanoid images called 'blobs' (see Figure 2). Readers of various drafts of this thesis have been strongly divided over the use of

these blobs. Most professional academics have a strong negative reaction, whilst other readers range from neutral to quite positive in their view of them. I have used these in my work for the past fifteen years and they are the result of many compromises, some listed below.

**Figure 2. An example of a 'blob'.**



***Some reasons for using blobs***

- Gender, age, race, etc. - neutral
- Better than purely abstract images for conveying humanity
- Useful as a symbolic device as described above.
- Copyright free - I have permission to use them in my work
- They become part of a visual language

I have asked those who dislike the blobs to suggest an alternative form of visual representation, but so far no better alternative has been offered. Therefore, I ask the reader to please forgive any cognitive jarring due to the unusual nature of the graphics and to consider what they are contributing to the work.

### **Core Visual Heuristics**

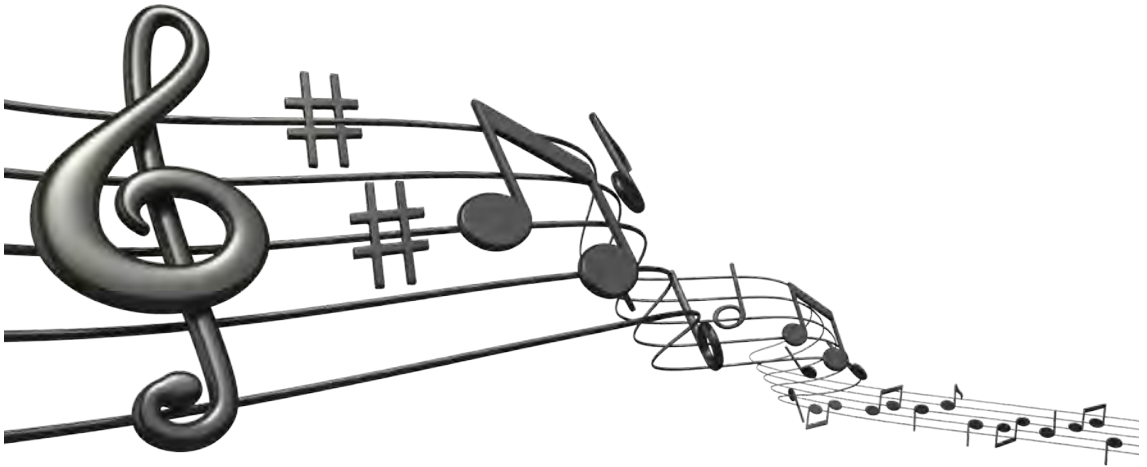
The third collection is the small group of graphics I use to represent my core concepts (Swedberg, 2016). These diagrams do not stand alone but are used as visual reminders of the detail found in the text. I have called them heuristics as they are not completed models in a traditional sense but rather function as an aid and support to the concepts described. I build these diagrams as the thesis progresses. Therefore, each is numbered 1a, 1b, 1c and 2a, 2b, 2c, etc. This shows the similarity and increasing complexity of each diagram. The complete version of each can be found in Appendix 1.

### ***Conclusion***

This prelude has touched on some of the unusual aspects of this thesis under the headings of themes, theory, structure and metaphor, and stories and graphics. The following chapter introduces the thesis as a whole, outlining my research focus, context, and aim. It also fills out the structure mentioned above.

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## Movement 1: Setting the Scene



The macro structure of the thesis continues the symphonic metaphor introduced in the prelude. There are three main movements, each with its own sub-elements. This is the first movement.

**Setting the scene:** This movement contains two introductory chapters and two interludes that lay the conceptual foundation for the rest of the thesis. All of the parts of the movement combine to set the scene for the rest of the thesis and should be read as a whole. It is possible that this less traditional approach may cause some discomfort and therefore I ask the reader to suspend judgement until they have finished the whole of this movement.



# Chapter 1: Introduction

The title for this work sums up the practical and theoretical core of its thesis, including the research problem. It also sets the focus, parameters, and purpose of the research. “*One Team: Where Worlds Collide; The Development of Transcoherence for Tackling Wicked Problems*” is a dense phrase that needs unpacking and that is part of the role of this chapter.

This is a transdisciplinary<sup>7</sup> thesis and is a response to the question: How can individuals and groups address the problem of collisions of conceptual worlds in multidisciplinary teams? In particular, teams that are exploring policy related to problems identified as *wicked*; that is, a complex problem with multiple stakeholders and no agreement on either the nature of the problem or potential solutions (Rittel & Webber, 1973). It is concerned not with tackling the content of specific wicked problems or policy, but with improving the process of collective thinking, learning and action. When multiple organisations engage in tackling a wicked problem they need to be sufficiently aligned that they can coordinate and collaborate their efforts for their common purpose (Innes & Booher, 2016). The following critical moment will help illustrate the kind of collision being addressed.

## 1.1 A critical moment – colliding worlds

It is midway through my year of fieldwork for my PhD. As usual, I am in a meeting. This one is being run by a small group (Design Gov) set up by the Australian Government to explore and develop policies through a user-based design process. Their project has been going for nearly a year and they are ready to present their draft research report, which was distributed a few days ago to all of us now gathered.

The sun is shining through the large expanse of windows onto a modern and clean, large boardroom-like table, around which sit twenty-odd senior executive managers from many different Australian Government departments and agencies. Most are men, dressed in dark suits with plain ties. I am sitting next to Catherine<sup>8</sup>, the head of the project on which my

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<sup>7</sup> An overview of transdisciplinarity is presented in Chapter 2.

<sup>8</sup> Catherine is a pseudonym. The nomenclature for pseudonyms in this thesis is introduced later in this chapter.

research is based. She is both a participant and a partner in my research. We both like the Design Gov members and respect what they are achieving in their project. We have been invited to attend this meeting as our project involves many of the same design issues and challenges as those Design Gov are facing.

Like the Design Gov team, we are exploring complex policy issues that affect multiple stakeholders and involve a number of government agencies; those issues most commonly called 'wicked problems'. They, like us, have found that the tackling of these types of problems is often controversial, with a large degree of conflict between stakeholders holding alternative views. In spite of the potential for conflict I am feeling relaxed and upbeat. The draft content is well thought-out, logical and clear. The key ideas have been supported and clarified by professional layout and excellent graphics. I expect some lively discussion because, although the research approach and findings being presented are quite controversial, they are very compelling.

The Chair begins the meeting by asking for comments on the draft, and suddenly there is palpable tension in the room. I begin to sense that there are issues here of which I am unaware. As we wait for someone to speak, I mentally list the possibilities. Then a large man clears his throat, and declares in a belligerent manner that he couldn't give this report to his department because of 'all the colour and professional layout'. I begin to chuckle at what I assume is a dry attempt at humour, when I notice a number of others around the table nodding seriously in agreement. I am flabbergasted. This is the best-presented report I have ever seen from a government department. The man can't be serious. As I wonder whether to say anything, a woman, seated across the table from the man who has just spoken, speaks up. 'Yes', she says, 'I would not show this report to my department, as it contains photos and graphics!'

My jaw drops open, and I wonder if I have entered an alternate reality. I am struggling with severe dissonance. What the hell just happened? Are these people looking at the same report as me? They have all been a part of this project and learnt the importance of good design. Of all the things to pick out, do they really think that professional graphics, colour and layout are the most important things to use as a basis for critique or complaint?

A situation of conflict has been created by these remarks, and it appears to me that we have no way forward. I have now shifted from relaxed and



excited, to confused, angry and frustrated. How can we resolve the conflict if we have so little in common?

This moment in time stands out from my year in the field as best demonstrating the key issues I want to explore in this thesis. For me it raises a number of significant theoretical and practical questions that are relevant to all those involved in collectively tackling wicked problems through some form of transdisciplinarity. There are multiple ways to interpret this incident. Whose perspective should be used, and what theoretical frameworks will explain it? To address these questions let the thesis proper begin.

## ***1.2 Context – one large complex team***

This section situates my research in its conceptual, social and temporal context, giving the necessary background to make sense of the critical moment above. It also describes what the research was about, where it occurred, who was involved and when the main events happened. Each part draws on official documentation from the project, as well as informal emails.

### **1.2.1 The what and where**

My use of the term *one team* in the thesis title is founded on an actual collection of people, formed as a team for an Australian Government policy project during 2013. The project was named A2J2, standing for *Access to Justice, Mark II*. (It will be henceforth be referred to as ‘A2J2’).

Membership for the team was intentionally diverse, drawn from different disciplines and professions, including representatives of multiple Australian Government agencies and non-governmental organisations. Members also worked together in different configurations, creating various sub-teams. The critical moment above comes from one of the many connections the A2J2 team made to other Government groups.

The project's intended output was a report to the federal Attorney General with recommendations for future policy development. Details of the project's rationale are given in the following early communication document from the team:

To develop a discussion paper containing options to facilitate easier access for all Australians to resources, services and assistance that aid in resolving problems with a legal dimension. Easier access to these resources and services would improve access to justice and so enable Australians to resolve such problems at the earliest possible time.

Studies within Australia and overseas have highlighted that legal problems are often just one aspect of larger, more complex issues. The legal dimensions of these complex problems are closely tied to, or caused by, other issues such as social or financial hardship (A2J2, 2013).

A2J2 was designed as a research project that over the course of a year would explore a specific wicked problem: to *reconceptualise access to justice for all Australians*. It drew on information from multiple sources, including academics and other federal departments and agencies. The project included a range of activities including individual research, many, many meetings, multiple workshops, and large quantities of coffee. My role in A2J2 will be explained later in this chapter.

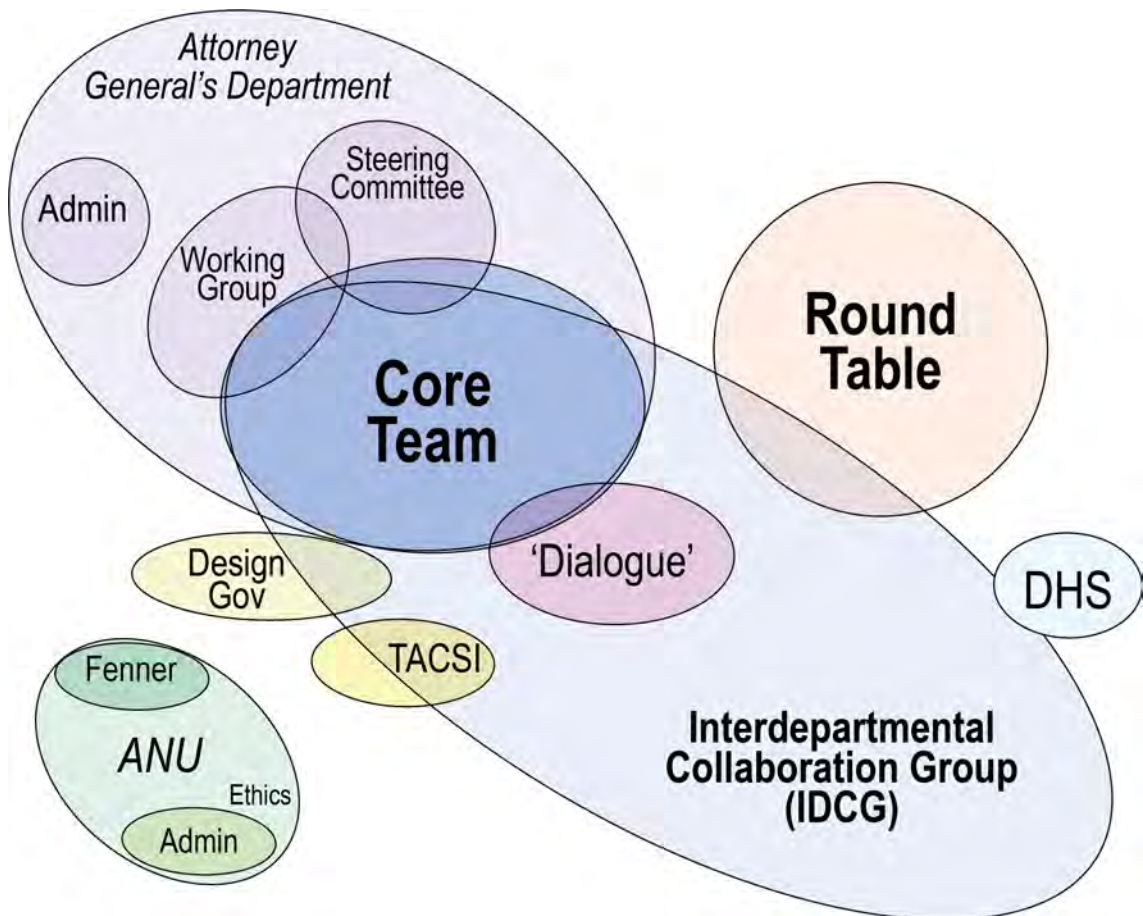
The activities in the project occurred mostly in Canberra, Australia's capital city. A few were held interstate, and some virtual meetings and discussions were conducted with people from around the world. The Core Team resided in one of the Attorney General's Department buildings, but had to move late in the project to another building across the street. The significance of this location and that of the layout of the office space is discussed in the interlude, *Taking Note of Invisibilities*. Many of the meetings occurred in spaces belonging to other departments and in the rooms of a professional venue organisation, another strategic decision discussed in that interlude. The *policy* nature of the A2J2 project is considered throughout the thesis, but is discussed in detail in Chapter 3 regarding ideas.

### 1.2.2 The who

This section introduces the research participants, (including myself), that were connected to the A2J2 project. Since participant stories and quotes will be found constantly throughout the thesis, I have included a visual 'who's who' at appropriate places. Each is presented as a map with associated lists of people in the legend. This will give the reader an idea of who each person is, and how they fit into the project.

From an ethical standpoint all the names have been changed and individuals' identities obscured. Also, I sometimes do not mention who said what in the text, if doing so would cross an ethical line. Each of the maps can be found at Appendix 1. Figure 3 is a base map of the main groups. The size of the circles indicates a mix of importance and numbers of people in that group associated with the project.

**Figure 3. The groups involved in the A2J2 project**



At the centre of the A2J2 project were the members of the Core Team. Their pseudonyms and positions are listed in Table 1. These people appear the most

frequently throughout the whole of the thesis, particularly in Chapters 3, 4, 5 and 8, where further details on each are offered where relevant. Other parts of the Attorney General’s Department are mentioned in the thesis, especially the two governance groups set up for the project, the Steering Committee and Working Group. The administration of the Department comes to the fore in Chapter 6 and the Interlude, Taking Note of Invisibilities.

**Table 1. A2J2 Core Team pseudonyms and roles**

Pseudonym	Position	Project Role
<b>Leadership</b>		
Catherine	Branch head	Project leader
Samantha	Co-branch head	No project role
Jezebel	EL2	Early 2013
Amber	EL2	Mid to late 2013
<b>A2J2 Team members</b>		
Penfold	Grad	Logistics, liaison
Hawkeye	Grad	General work
Molly	Grad	General work
Bruce	Grad	General work
Huck	Grad	General work
Abbey	Intern	Researcher
Dolores	EL1	Writer
Geoff	EL1	Specialist
Kahn	EL1	Specialist
Hermione	PhD	Academic, content research
Craig Ashhurst	PhD student	Consultant, Process & facilitation

The table above shows that there were a significant number of young, newly-graduated team members. This was a deliberate attempt to find capable, open and innovative people who would be willing to work in less traditional ways. Team members came and went during the year the project was active, and the timeline in the next section shows who was with the team when and for how long.

I had an unusual and multifaceted role in the A2J2 project, which will be described fully in Chapter 2. Briefly, I was a full member of the Core Team, being engaged as a *process consultant*, as well as *facilitator* for most of the activities. These are two of my professional specialties that I had provided to Catherine previously in a commercial context. This time it was not a financial arrangement but an exchange of my expertise for access to all those on the project as volunteer research participants. (I was fortunate that nobody declined to participate, with all the

participants signing their consent forms). At the same time, I was also both a research participant and observer. This complex role brought me into close contact with most of the people and events associated with the A2J2 project, particularly Catherine, the leader and driver of the project.

The other circles in Figure 3 show the other subgroups associated with the A2J2 project. The Interdepartmental Collaboration Group (IDCG) had members from eleven different Federal Government Departments, with a later controversial addition from the Department of Human Services (DHS). This group also included people from Design Gov and TACSI, two research and design teams with expertise in policy research. These groups are most visible in parts of Chapters 3, 4, 6, 7, and 9. Most of the activities of these groups occurred in the venue, Dialogue, situated in the ground floor of the Core Team's building, and the unique attributes of this space are central to the Interlude, Taking Note of Invisibilities. The Roundtable was a three-day event that invited experts from many different stakeholders in Australia and overseas. The content and focus were designed by the IDCG. This event was, for us, surprisingly successful and is the main source for Chapter 8: A Symphony of Worlds.

The final set of green circles on the left of the diagram represent parts of the academic institution hosting my research, The Fenner School of The Australian National University. Although there were no direct linkages to A2J2, the influence and flows between the project and university were substantial. Consequently, reference is made to university issues sporadically. Originally, my sixth chapter on *Organisational Culture* contained 5,000 words on university culture but word limits forced me to cut it from later drafts.

### **The complex messiness of researching with real people**

Central to my research is the idea that participants are real people<sup>9</sup>, not just sources of data. This can be unusual in research because the desire to answer research questions, even qualitative ones, may leave broader life characteristics of individuals overlooked. That people are in fact complex, whole beings with convoluted histories, is never denied in principle, but in practice most of the

---

<sup>9</sup> I again draw on the insights of phenomenology for support of this position (I. McIntosh & Wright, 2018).

background of participants is assumed to be irrelevant or not significant to the results. In contrast, a number of fluid and dynamic approaches to research have considered the importance of the whole person and how this affects their participation, both in the research process<sup>10</sup> and its emergent findings (V. A. Brown & Harris, 2015; Fenwick, Edwards, & Sawchuk, 2011; Kuenkel, 2016).

Relaying the personal stories of my participants and myself adds to this thesis a form of narrative (McAdams, 2008) that helps to display the complex richness of the whole person and the reality they see themselves in. Like myself, every participant in my research came with their own relevant life stories, 'situated knowledges', and 'social worlds' (Clarke, 2005). Therefore, all of the stories in this thesis include the deep, rich messiness of what I discovered in my research, and it is from this richness that many of my findings have come. This narrative thread throughout the thesis has a number of functions:

- First, this form of biographical narrative is a means of self-revelation that provides an insight into an individual's own view of the world and the issues they faced.
- Second, these stories provide detail and richness to the description of the thinking, decisions and resultant actions of those involved, and are not reducible to mere propositional language.
- Third, our stories will be used to bring to life elements of the theories of collective coherence, in particular, the historical (P. H. Burke, 1990) and 'tacit' (Polanyi, 1966) dimensions.

### **1.2.3 The when - a contextual timeline**

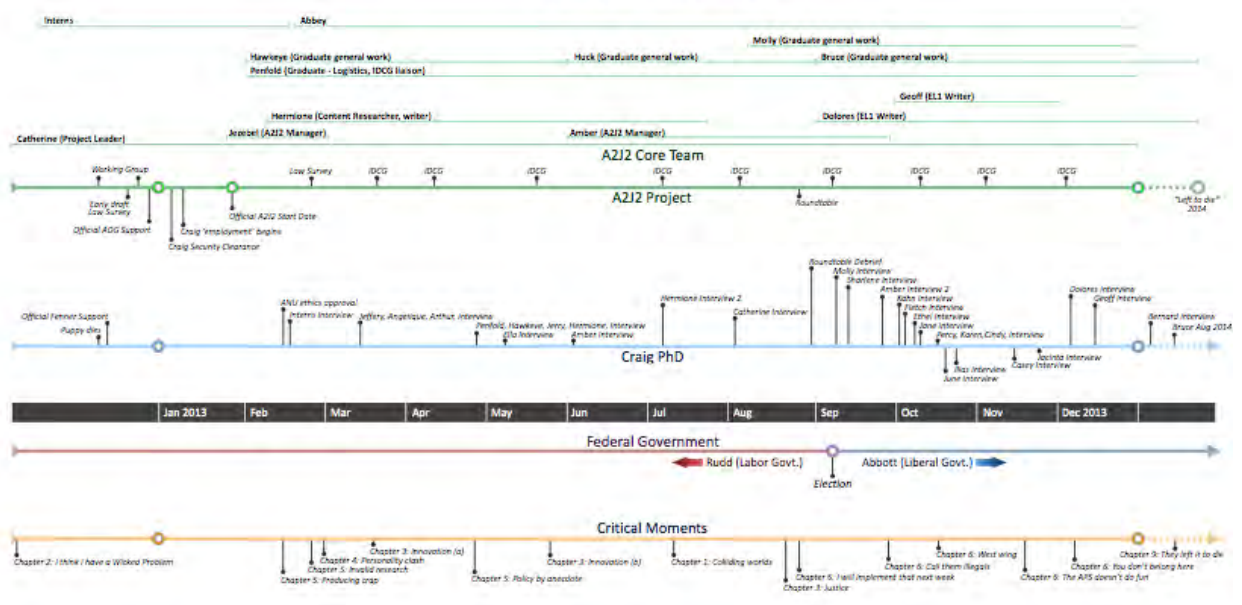
The complexity of the A2J2 project, with its many people and constant activities, makes it difficult to clearly relay how all the elements fit together. To help with this, I have placed the rhythms and timings of various contextual elements onto a single, layered timeline. Like the participant maps described in Section 1.2.2, Figure 4 is also attached as a separate page in Appendix 1. Together they offer the reader a pair of ongoing contextual tools to help them navigate the intricacies of this thesis.

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<sup>10</sup> My research methodology follows the latter approach and will be explained in detail in Chapter 2.

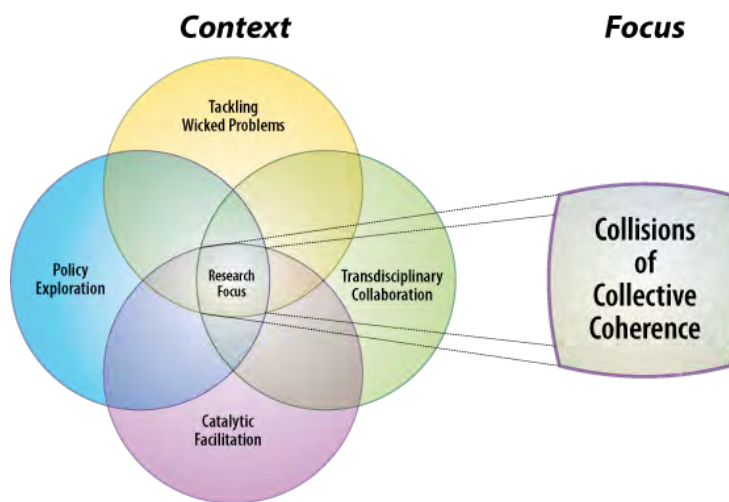
Although the A2J2 project officially ran from January to December 2013, significant preparatory work was performed in 2012 and the project lingered into 2014. The year itself can be broken into three main phases. The early part of the year was taken up with setting up the project, getting people on board, and clarifying the scope and content of the research. The middle of the year was a time of consolidation and the emergence of the IDCG as a key element of the project. The latter part of this phase needed to take into account a federal election and new government. The final phase was dominated by the Roundtable, a three-day event.

**Figure 4. A2J2 Project timeline highlights**



### 1.3 Research focus: diverse teams where worlds collide

The focus of this research is found at the intersection of four contextual themes, shown in Figure 5. These themes combine in projects that include a process of *facilitation of transdisciplinary collaboration* in diverse teams who are conducting *policy exploration* for a *wicked problem*. Within this intersection I am specifically interested in the differences between members who have committed to being *one team* (further details on the contextual themes can be found in Chapter 2).

**Figure 5. Research context and focus**

Differences between team members can be problematic, provoking negative effects such as “conflict and division” (Harrison & Klein, 2007, p. 1199). These effects can in turn have a detrimental overall effect on team-level outcomes (B. Meyer, Glenz, Antino, Rico, & González-Romá, 2014), including impacts on group processes, communication, decision making, performance, satisfaction, and cohesion, resulting in team fragmentation and dissolution (Adair, Liang, & Hideg, 2017; Thatcher & Patel, 2012).

Despite this, the literature recommends the use of collaborative (O’Flynn, 2009) inter- or trans-disciplinary teams for tackling wicked problems (V. A. Brown, Harris, & Russell, 2010; Fam, Palmer, Riedy, & Mitchell, 2017; J. T. Klein, 2014). A central reason for this is the view that diversity can generate synergistic outcomes such as integrative insights, creativity, and innovation (Harrison & Klein, 2007; Li, Lin, Tien, & Chen, 2017). This tension between potential synergy and major threats to team success has been “deemed the transdisciplinary paradox” (Augsburg, 2014, p. 237). At the core of this paradox are issues of diversity within groups, and therefore a brief introduction to the role of diversity in this thesis follows.

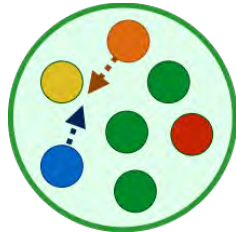
### 1.3.1 Team diversity

Diversity and its synonyms such as heterogeneity, dissimilarity, and dispersion (Harrison & Klein, 2007, p. 1200) have been used widely and also ambiguously in the organisational literature. At its most basic, *diversity* refers to “variation in team



member characteristics” (p. 1201). There is also an emphasis in the literature on “the *perception* that another person is different from oneself” (Homan, Greer, Jehn, & Koning, 2010, p. 478). Core Visual Heuristic A.1 illustrates this concept of team diversity and is the first of the small collection of diagrams that will be gradually constructed throughout the thesis.

**Core Visual Heuristic A.1.      *One team made up of a diverse membership***



- Large circle denotes the team as a whole.
- Small circles denote individuals.
- Colours denote differences in attributes.
- Arrows show conflicts.

The attributes used for describing diversity have been grouped together in various and often overlapping *types of difference*, the most common being:

- *socio-demographic* attributes (e.g. gender, age, class, culture or ethnicity)
- *job-related* attributes (e.g. position, authority, status, power, work styles, tasks, functional background, access to resources and tenure) (B. Meyer et al., 2014; van Knippenberg, Homan, & van Ginkel, 2013)
- *knowledge-related* attributes (e.g. educational discipline, functional background, technical language) (B. Meyer et al., 2014)
- *personal* attributes (e.g. personality, priorities, beliefs, habits, loyalties, cognitions, perspectives or routines) (Trittin & Schoeneborn, 2015; Will, 2016).

The value of these groupings has been called into question by Harrison and Klein (2007), who offer an alternative configuration based on the *nature* of the differences. They identify three groups:

- **Separation:** differences in position or opinion among unit members. Such differences reflect disagreement or opposition along a single continuum representing dissimilarity in a particular attitude or value, for example.
- **Variety:** differences in kind or category, primarily of information, knowledge, or experience, among unit members.

- **Disparity:** differences in concentration of valued social assets or resources such as pay and status among unit members. Differences that, at their extreme, privilege a few over many (p. 1200).

Both configurations are broadly useful for explaining the types of diversity I am concerned with here, but two other concepts help to refine my focus further: *faultlines*, and *collisions of collective coherence*.

### 1.3.2 Faultlines

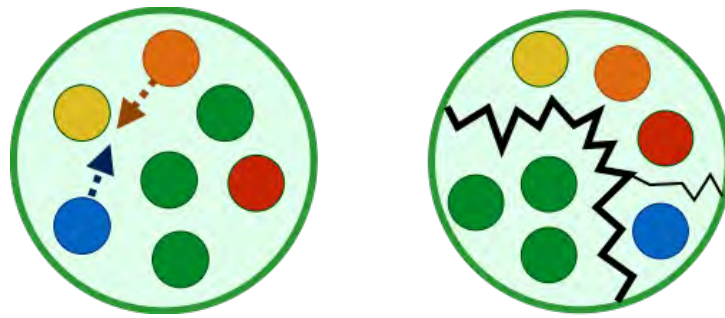
Rather than focusing on the effects of micro-level diversity, that is, individual differences, some authors have investigated “meso-level effects of group composition whereby the distribution of multiple attributes is investigated simultaneously” (Thatcher & Patel, 2012, p. 970). Prominent in this literature has been the idea of team faultlines. The term *faultline* entered management literature from geography where it refers to “a line on the surface where the ground may potentially split or break” (B. Meyer et al., 2014, p. 635). Lau and Murnighan (1998) originally defined a *team faultline* as a “hypothetical dividing line that may split a group into subgroups based on one or more attributes” (p. 328). Therefore,

these splits, or faultlines, occur when multiple attributes (e.g., race, age) of group members come into alignment and divide a group into relatively homogeneous subgroups (Bezrukova, Spell, Caldwell, & Burger, 2016).

Faultline configuration has also been conceptualised using the diversity groupings outlined above. This development allows me to extend my visual representation from Core Visual Heuristic A.1. Core Visual Heuristic A.2 shows the same team as before on the left, but the version on the right shows the development of sub-groupings formed along faultlines. The strength of a faultline “increases the more attributes there are in alignment that define a subgroup” (Bezrukova et al., 2016, p. 87). This is shown by a thicker line between the green individuals and the rest. For instance, the green circles could represent middle-aged women with university degrees, with the others being all men with different forms of non-university qualifications.

**Core Visual Heuristic A.2.**  
**with faultlines**

***Diverse teams: single attribute difference and***



Another relevant aspect of group faultlines is that they remain *dormant* unless *triggered*, after which they are considered *active* or *activated* (Spoelma & Ellis, 2017). Only activated faultlines “are theorized to cause discordance within teams and have been shown to negatively affect team performance” (Ren, Gray, & Harrison, 2015, p. 390). Referring back to Core Visual Heuristic A.2, the main faultline (in the second circle) may remain dormant unless something makes gender and university education salient.

The concept of group or team faultlines provides part of a theoretical framework for understanding collisions within a diverse team. However, it is insufficient for making sense of the collision I encountered in the critical moment described at the start of this chapter. This brings me to the second concept that I will be using to refine my focus in this thesis: *collisions of collective coherence*.

### **1.3.3 Collisions of collective coherence**

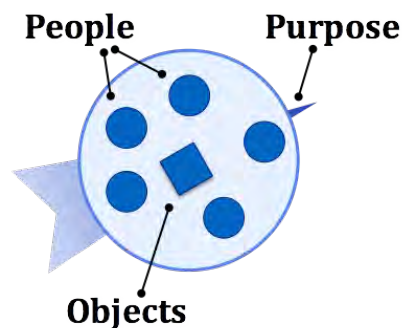
In searching for a concept that would encompass the sorts of collisions I experienced in my fieldwork, I encountered multiple potential constructs, none of which was adequate by itself. Therefore I have created a new phrase to act as an umbrella term (Hirsch & Levin, 1999): *collective coherence*. In this thesis it functions as a mechanism for presenting a range of meanings inherent in the vocabularies of different disciplines and knowledge cultures. The interlude following this chapter will unpack the concept further, identifying different terms that have been used to denote a coherence, and the nature of the elements involved in their construction.

The metaphor, 'where worlds collide', in the thesis title, points to the idea that disagreements between diverse team members are not always based on particulars or even subgroup differences. Rather they often reflect a deeper conflict of colliding trajectories of whole, alternate, but still coherent views of reality. Even in everyday language we hear comments such as, 'What world are you from?' or 'You could never do that in the real world!' These phrases imply that the person being spoken to is functioning in some form of alternate reality that is nonsense to the observer. Hiebert (2008, p. 15) captures this nicely:

It becomes increasingly clear that people live not in the same world with different labels attached to it but in *radically different conceptual worlds* [emphasis added].

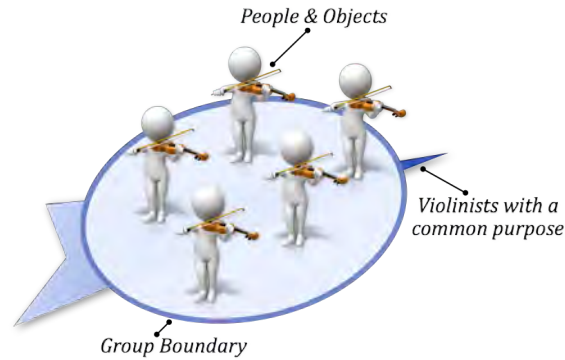
Building on this, I contend that these different worlds are created as humans cohere into groups around a collection of common elements that form a shared pattern in one or more domains, filtering their experience of the world to be able to make decisions and engage in meaningful activity.

**Core Visual Heuristic A.3.      *A single collective coherence***



Core Visual Heuristic A.3 shows an abstracted version of a group, in line with the other diagrams used so far. 'Collective' simply means a collection of people and objects that the group use. These collective coherences may create incommensurable differences, boundaries or divisions with other social groups. These are identified in the diagram by the coloured circle, combined with the arrow that denotes the group's purpose. At this point it is worth shifting to a less abstract image and introduce my second core visual heuristic of *collective coherence*.

**Core Visual Heuristic B.1. A group of violinists, a musical collective coherence**



Core Visual Heuristic B.1 contains a collective of violinists and their violins, in keeping with my musical metaphor. The collective coheres around the playing of a specific stringed instrument. The coherence of the group would include the shared patterns found in the physical structure of violins and in the language of music. Further patterns exist around the social expectations and etiquette connected to playing, particularly with other violinists.

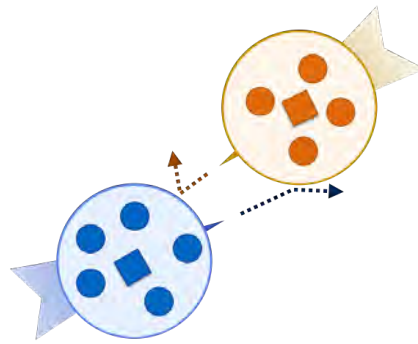
So *collective coherences*, or *worlds*, both bind individuals into groups, and create boundaries between groups. The different trajectories of these worlds may lead to collisions across these boundaries.

In this thesis I do not attempt to resolve disagreements or disputes over specific concepts, priorities or beliefs. Rather, as a researcher and participant I have multiple questions to which I want answers. How and why do different collective coherences clash? What triggers the clash? What is the nature and consequences of these collisions? And finally, how can these collisions can be reduced, avoided altogether, or transformed to create synergies for the team's objectives?

To illustrate these types of collisions, Core Visual Heuristic A.4 depicts two different collective coherences on a collision course. The dotted arrows pick up a potential dynamic between the groups; specifically, a possible path of collision. In this diagram the two groups have yet to collide, but their combined directions contain a potential and probability that they will. The orange arrow symbolizes a strong reaction from one group that will drive the groups apart, whereas the blue arrow shows a milder deflection of one group from its original path.

**Core Visual Heuristic A.4.**  
***potential collision***

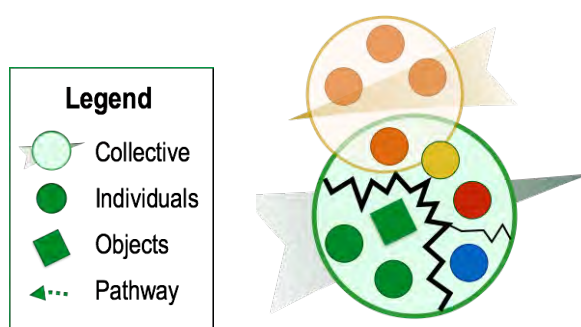
***Collective coherences on trajectories of***



Core Visual Heuristic A.5. shows a large heterogeneous team, with diverse membership. In this diagram, I am extending the visual range of a group faultline beyond the team itself. The team shown is based within a *green* collective, has *green* goals and is using *green* objects and tools. The non-green members of this team don't just break into sub groups but also have their own respective collective coherence allegiances and trajectories with groups outside the team. Allegiance beyond the team, to an external collective, is shown through the faded orange circle and arrow that intersect with the large team circle. My point here is that differences of collective coherence between members of a heterogeneous team make that team's boundary weaker, whilst strengthening the individual's bonds to their external collective. This is what I mean by 'One Team: Where Worlds Collide' and this is the focus of my research.

**Core Visual Heuristic A.5.**  
***collective***

***Membership of one team member with another***



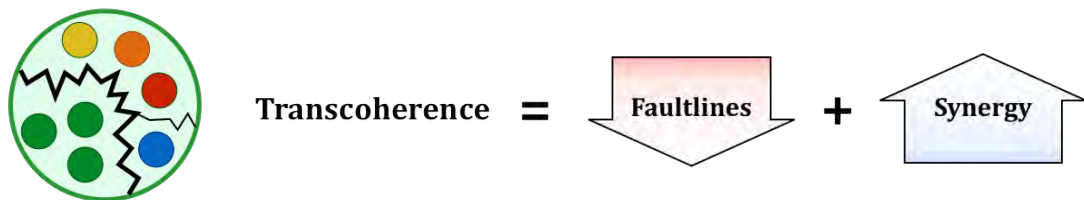
## 1.4 Research aim: a shift from collisions to transcoherence

Given the research focus described in the previous section, the aim of my research is to explore how groups can shift from collisions of collective coherence to the development of what I have called trans-coherence. This aim leads to the emergence of a number of central research questions:

1. What is the multilayered nature of these collisions?
2. How do different theoretical frameworks, and my experiential data from my research, combine to explain how these collisions occur and might be reduced?
3. From these insights, what practical ways of better collective thinking, learning and action can be produced for tackling wicked problems?

Addressing the third question requires further elaboration as it relies on understanding a term I have created. To deal with collisions, a new capability in teams and their members needs to be developed. I have labeled this capability *transcoherence* and it is a concept developed throughout the thesis. *Transcoherence* is about how people can understand and manage the multiple worlds existing within a team. It has two parts as shown in Figure 6.

**Figure 6. A transcoherence equation<sup>11</sup>**



- A reducing or deactivation of faultlines
- An increase in synergy

For a person or group to be capable in transcoherence requires a particular mindset and approach to team diversity. A simple illustration gives me a starting point for describing this concept. Core Visual Heuristic C.1 shows my violinist from the earlier collective coherence model reappear but now working with a variety of different musicians in a new metaphorical visual model of a heterogeneous team, a musical

<sup>11</sup> This image is loosely based on the shape of a diagram by Klein (2013, p. 4), but the content is totally different.

group. I contend that transcoherence is required for this group to be successful. This model will be developed throughout the thesis, initially in this section and then particularly in the interludes and at the end of the chapters of the second movement.

**Core Visual Heuristic C.1.      *A collective with transcoherence capability***



Before I clarify in detail what I mean by transcoherence I will describe two related terms, mono- and multi-coherence. In each case the prefix describes a different approach to interacting with the collective coherences of others.

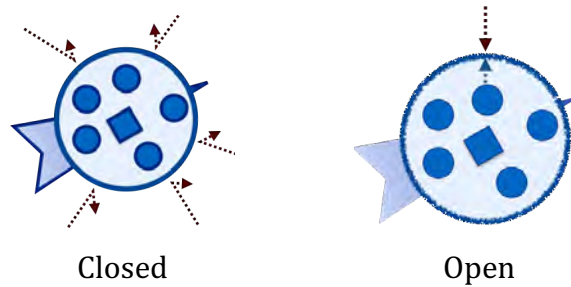
The many ways that humans respond to those who differ from them in a group can be considered as on a spectrum, analogous to the distinctions made between multi-, inter-, and transdisciplinary approaches to research (J. T. Klein, 2014). These responses can be complex, inconsistent and vary from situation to situation, but in general there are recognisable nodes on the spectrum with common characteristics. I have chosen three of these nodes, labeling them mono, multi and trans respectively. Each node encompasses the characteristics of both individuals and groups.

### **1.4.1 Mono-coherence (closed and open)**

I define mono-coherence as being a singular way of making sense of the world. This approach can be either closed or open. Core Visual Heuristic A.6 illustrates both versions of mono-coherence.



**Core Visual Heuristic A.6. Mono-coherence**



An individual with closed mono-coherence is convinced that there is only one way of understanding the world and that therefore, by definition, any other reasonable person must share this view. Any differences are interpreted as a *problem in the other*, whether through their ignorance or deliberate transgression of moral norms. Many research members exemplified this position at least some of the time during my fieldwork<sup>12</sup>. A group with closed mono-coherence will be self-reinforcing and impervious to the views of outsiders. Religious fundamentalists are probably the most common example of this, and were used by Festinger (1957) in exploring cognitive dissonance<sup>13</sup>. In my fieldwork, participants retreated at times to supportive external groups who functioned in this way. Yet on almost all occasions they perceived the group not as fundamentalist, but as an excellent representation of the *correct way* of understanding and doing things<sup>14</sup>.

An open mono-coherent approach most closely equates with disciplinarity. Where it differs from closed mono-coherence is in recognising that one's singular expertise is only one of many. Despite this recognition, this sort of expert does not necessarily "possess or even understand the substance of other disciplines" (Karjalainen & Salimäki, 2008, p. 7). Some organisational literature has used the shape of different capital letters to describe different sorts of expertise. In this case, a disciplinary expert is described as an 'I' shaped professional (Uhlenbrook & de Jong, 2012, p. 3478), the downward stroke of the 'I' signifying their deep knowledge of a narrow field.

<sup>12</sup> See in Chapter 4 on personality.

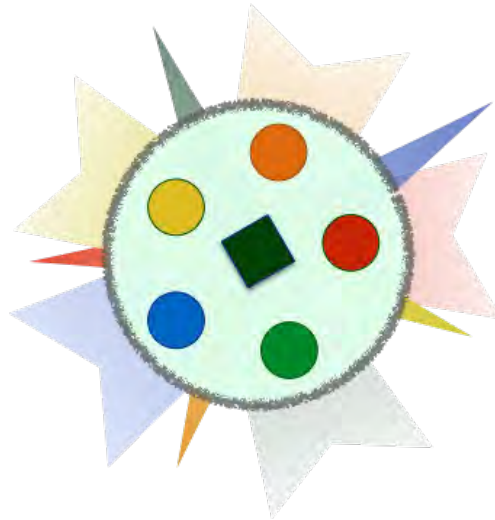
<sup>13</sup> See Interlude: Listening to Dissonance.

<sup>14</sup> See Chapter 5 on paradigms.

### 1.4.2 Multi-coherence

The second node is about individuals and groups with multi-coherence, illustrated in Core Visual Heuristic A.7. The difference between mono-coherence and multi-coherence is that even the expert understands enough of the expertise of another to appreciate that the other's expertise is legitimate and different to their own.

**Core Visual Heuristic A.7.      *A group with multi-coherence***



In the diagram, the diverse membership of the group is denoted by the variation in colour, while the different coloured arrows underlying the group denote the collective coherence to which each member has an allegiance. In this type of group each person contributes their own expertise without integrating with other team members and defers to the expertise of others as appropriate.

Multi-coherence reduces faultlines in my transcoherence equation but does not impact significantly on raising synergies. In my research this was the dominant form of team, with many people respecting the expertise of others even if they did not understand where they were coming from. That lack of understanding meant that people were left to their own devices and their expertise was not utilised by others in the team.

### 1.4.3 Trans-coherence (henceforth, transcoherence)

To explain *transcoherence* in more detail I turn to the literature on wicked problems. It has been consistently noted that teams tackling wicked problems need to be more

than just multi-disciplinary, suggesting instead the use of inter-, and trans-disciplinary team structures (Pohl, Truffer, & Hirsch-Hadorn, 2017). As I am concerned with coherence in teams, a related but slightly different concept, I also use ‘trans’, defined as

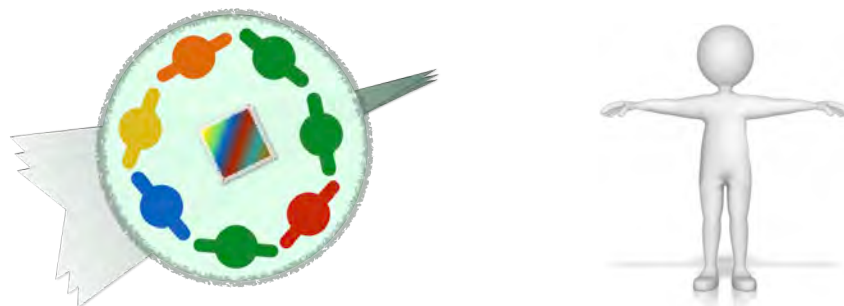
A prefix occurring in loanwords from Latin (*transcend*; *transfix*); used with the meanings “across,” “beyond,” “through,” “changing thoroughly,” “transverse,” in combination with elements of any origin: (Dictionary.com, 2018)

A team that has developed transcoherence, then, places the emphasis on the connections between group members. This includes both parts of my equation from Figure 6. Faultlines are reduced in strength or deactivated and boundaries are transgressed or bridged to create synergies between team members, I therefore define *transcoherence* as being:

- an individual’s **ability** to consciously straddle different intellectual and social worlds, and
- a **heterogeneous** group’s **capacity** to reduce group faultlines and develop synergies.

To illustrate this, I return to my abstract diagrams. Core Visual Heuristic A.8 shows a team with a developed transcoherence. The difference in this build of the diagram from previous versions can be seen in the lines stretching out from each small circle. This represents the capacity of the individuals to straddle and interact with other forms of expertise. This image taps into the literature on T-shaped experts.

**Core Visual Heuristic A.8.      A T-shaped group with transcoherence**



To the right of the diagram is a blob with their arms reaching out to the side, representing what has come to be known as a T-shaped expert (Smathers, 2014; Uhlenbrook & de Jong, 2012). The depth of disciplinary knowledge is denoted by the

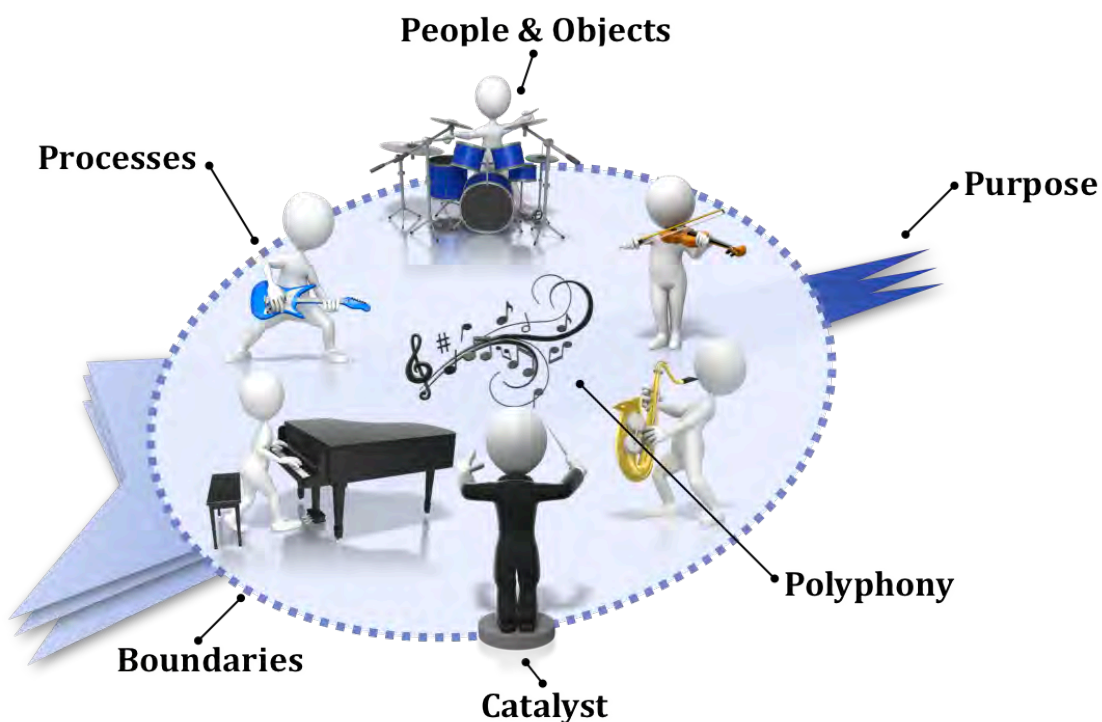
vertical bar, or I part of the T. The crossbar of the T represents their ability to operate across disciplinary, functional, or organisational boundaries (B. S. McIntosh & Taylor, 2013, p. 14). Authors note that T-shape professionals should not be confused with generalists.

The ideal T-shape is a top expert in one field but he or she can build bridges to other disciplines and is able to think outside of the box. A generalist's profile is characterized by a general knowledge of a wide range of disciplines (each to varying extent), but not by an in-depth understanding of one discipline (Uhlenbrook & de Jong, 2012, p. 3478).

What should be included in the crossbar of the 'T' varies depending on the author, although characteristics described tend to go beyond just knowledge, including personal values, organising, understanding, and influencing (B. S. McIntosh & Taylor, 2013). Others have described the crossbar as relating to abilities in dealing with multiple people, business functions, systems, and cultures (Demirkan & Spohrer, 2015).

What I mean by a T-shaped or transcoherent person and group will be developed throughout my thesis, but, for present purposes, may be more easily understood by shifting to another of my Core Visual Heuristics.

### **Core Visual Heuristic C.2. *Elements of transcoherence***



The image is of a metaphorical heterogeneous team, a musical group. Six elements are identified at this stage. (Others will be added as the thesis develops). The different objects and people are denoted by the multiple types of musicians and their equipment. The processes include both the playing of individuals but more importantly how they harmonise and combine their musical expertise. The group has boundaries that only allow members to be players in the group. A conductor may be a catalyst to support the combined efforts of expertise. The result is multidimensional and polyphonic. Finally, the overlapping and aligned purposes is signified by the multiple arrows pointing generally the same direction.

Having set out who was involved in my field work and the focus of my research, I have described my research aim in this section. The next two sections describe the unusual nature of the structure of this thesis.

### ***1.5 Macro thesis structure: interludes and chapters***

As stated previously, the macro structure of the thesis continues the symphonic metaphor introduced in the prelude. There are three main movements, each with its own sub-elements:

- **Setting the scene:** Contains two introductory chapters and two interludes that lay the conceptual foundation for the rest of the thesis.
- **Collisions of collective coherence:** The largest movement, with five chapters, each of which explores one type of collision. Five interludes accompany the chapters, each describing a concept important in managing collisions.
- **Bringing it all together:** The last two chapters and associated interludes provide the finale to the work.

Within each movement are two parallel threads of research: *chapters* and *interludes*. These two threads can be compared with a musical contrast of a minor key (chapters) and major key (interludes) and together they form the program for the thesis as shown in Figure 7.

**Figure 7. A program of the thesis macro structure**

<b>One Team: Where Worlds Collide</b>	
<b>Setting the Scene</b>	
	Prelude: Introducing Multiplicity
	Chapter 1: Introduction and Thesis Overview
	Interlude: Clarifying Collective Coherence
	Chapter 2: Research Context & Methodology
	Interlude: Listening to Dissonance
<b>Collisions of Collective Coherence</b>	
	Chapter 3: Nonsensical Ideas
	Interlude: Speaking About the Tacit
	Chapter 4: Personality Clashes
	Interlude: Gaining Legitimacy
	Chapter 5: Opposing Paradigms
	Interlude: Overcoming Boundaries
	Chapter 6: Incompatible Organisational Cultures
	Interlude: Taking Note of Invisibilities
	Chapter 7: Competing Fields
	Interlude: Reflecting on Catalytic Facilitation
<b>Bringing It All Together</b>	
	Chapter 8: A Symphony of Worlds
	Interlude: Learning from Dialogue
	Chapter 9: From Collisions to Transcoherence
	Coda: These Three Remain: Trust, Hope & Love

### 1.5.1 Chapters

The chapters are the substantial blocks of work in the thesis. Every chapter offers a singular argument that is both complete in itself and also forms part of the whole argument of the thesis. Each of the central chapters (3-7) discuss a single type of collision, weaving together participants' experience of the collisions with a theoretical framework that helps to make sense of the nature of these collisions. I explore why these particular collisions occurred and how they were dealt with during the project. Chapters are primarily concerned with the faultline part of my transcoherence equation. They identify how faultlines were activated and then how they were reduced or deactivated.

### 1.5.2 Interludes

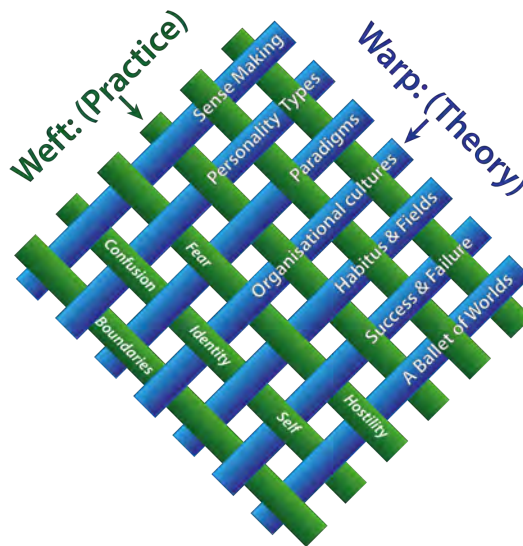
Between each chapter is an 'interlude', another musical term. Interludes are similar to preludes in that they are short musical pieces, but they have a different role.

Whereas a prelude gives a hint of the tone and themes to come, an interlude provides a short break between larger sections of the work. Here, each interlude is a short piece that provides a description of a theoretical concept that, while related to all of the chapters, has particular relevance to the chapters between which it is positioned. The interludes offer uplifting insights into how diverse groups can develop their synergy part of the transcoherent equation.

## 1.6 *Micro thesis structure: within the chapters*

Within each chapter is another more detailed structure, a combination of theory and practice, a weaving together of multiple threads in a consistent order. For this micro structure I use a tapestry metaphor<sup>15</sup>, a weaving together of practice (weft) and theory (warp) (Figure 8). I begin with a grounded-theory-like set of observations and comments from those involved: the weft. Then I focus on a particular theoretical perspective most relevant to that story: the warp. This weaving is prefaced with a story based on a critical moment of organisational practice. Finally, I weave these elements together to conclude the chapter.

**Figure 8. A tapestry image of the thesis chapter structure**



### 1.6.1 Critical moments – kairotic (significant) time

The story at the beginning of each chapter describes one or more critical moments in time and space from the project. Each moment will function as an exemplar of one

<sup>15</sup> A tapestry weaving is made up of two parts. The warp provides the foundation and strength. The weft is woven into the warp, the combination creating the pattern of the whole work.



type of collision. The collisions have been chosen based on a combination of the frequency with which that type of collision occurred, the significance to the project, and the relevance to the research (that is, collisions of collective coherence).

What I call critical moments have been labeled by others as “hot situations” (Callon, 1998), “matters of concern” (Latour, 2004, 2014) and as examples of “kairotic time” (Czarniawska, 2004; Lambotte, Donnelly, & Meunier, 2013). Each of these terms help to fill out how I am using these moments. As mentioned above, these are examples of collisions of collective coherence. However, what makes these moments *critical* includes criteria that Latour (2014) has used to define his *matters of concern*. He describes four specifications for a *matter* to be of *concern*, each of which is relevant to my description of critical moments.

1. They have to ‘matter’ for “some people who have to be specified, and for whom they are the source of an intense interest and a redirected attention” (p. 121).
2. They have to be worth having a conflict over (p. 122).
3. They have to be “populated” (p. 122), that is, that there is a gathering of people and ‘things’ that can be identified.
4. They have to be “durable”. By this Latour means a dynamic “process of continuously inheriting a certain identity of character transmitted through a historical route of events (p. 123).

This leads me to why my critical moments are a form of *kairotic* time. Western society is familiar with *chronological* time, a linear progression of history, a term derived from an ancient Greek god, *Chronos*. What we are not as familiar with is another Greek god of time, *Kairos*. He is the god of “the opportune time or occasion, the decisive moment” (Lambotte et al., 2013, p. 90). So, “whereas Chronos measures time in mechanical intervals, Kairos jumps and slows down, omits long periods and dwells on others” (Czarniawska, 2004, p. 775). Therefore, these moments are special as they allow me as the narrator to describe *events* unapologetically in a non-linear way that makes some things visible and others invisible.



## 1.6.2 Selecting theories for the warp

The choice of which lens to use as the warp in each chapter is based on a number of factors. My initial choices were based on my familiarity with, and interest in, particular theories before starting the research. Following Derek Layder's (2005, 2006, 2013) *adaptive theory* approach to social research, some theoretical frameworks acted as *orienting concepts* for my research, as described in Chapter 2.

My starting criterion was that any theoretical lens **must offer both theoretical and practical value** to myself and the participants; that it will act as an **explanatory framework**, where each lens sheds light on the weft; that is, insights into why the critical moments occurred. This led directly to my second criteria for choosing a framework, **relevance**. There is a plethora of potential lenses I could use. Therefore, I could afford to pick those that have a reasonable level of correspondence with my broad concept of collective coherence and the collisions linked to that concept.

As the research project got underway, issues emerged for the participants that I needed to address in my role in the team, as the *process person*. I considered that my approach in these situations would be the same as in my other professional work, to choose theoretical frameworks that are familiar to my participants and to me. **Familiarity** reduces the emotional and cognitive load on participants who are trying to deal with the issues confronting them. This pragmatic approach has helped me to engage clients in tough thinking and action. A prime example of this was the choice to use the highly contested 'Myers-Briggs Type Indicator (MBTI) tool (Briggs-Myers, McCaulley, Quenk, & Hammer, 2003) for exploring the collisions of personality<sup>16</sup>. As I am accredited in use of this tool, and all of the participants were familiar with it, we were able to engage immediately on the related issues with a minimum of extra learning.

Linked to this was another practical requirement that emerged as part of the experience of the research project, **applicability**. I needed to be able to apply any theory immediately to the situation at hand. The lived experience of the participants was fast-paced and goal-oriented. There was little interest or patience for theory if it could not be used *in situ*.

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<sup>16</sup> Refer to Appendix 2 that discusses the contested nature of this framework.

By the time the project finished I had relied on a broad repertoire of theories and ideas to support the collaborative effort. This has been significantly increased as I explored and analysed the various collections of collisions I found in the data. As I reviewed the wealth of information it became clear that I would need to structure the thesis in a way that reflected the range of frameworks I had used in practice. In looking at the literature it also became clear to me that to tackle a multidimensional problem I wanted to use **multiple frameworks**. This would enable me to show how the different lenses made various elements in the data visible and invisible. This complexity and overlaying of multiple lenses should lead to the sort of thesis I intend.

There were at least two problems with this. There were so many options that to include them all would cause the thesis to become confusing to read and, in fact, impossible to write. Therefore, I decided to compromise and employ **a single perspective for each chapter**. This means that I could reflect on the lived experience within a manageable form.

Finally, as I delved further into the literature it became clear to me that there were still many possible candidates for a theoretical framework within a single perspective. Thus, I have chosen to use those theories that to me can stand as **exemplars** within their own intellectual community. In many cases this has sent me back to early trailblazers in particular fields. These authors often offer a clearer focus on the core elements of the theory, which I then fill out if required by later writers.

## ***1.7 Conclusion***

This chapter has introduced the context, focus and aim of my thesis. It has also set out the metaphors for the macro and micro structure. Following the musical metaphor, this is a part of the first movement, which also contains the two interludes and the second chapter. Together these lay a foundation for the work as a whole. Integral to this understanding is my concept of collective coherence and this is the topic of the following interlude.



## Interlude: Clarifying Collective Coherence

### *Introduction*

This first interlude introduces the format for interludes throughout the thesis. Each of these short pieces provides a description of a theoretical concept that, while related to all of the chapters, is particularly relevant to the chapters it sits between. With all the interludes, I am interested in how the theoretical concept described can be used to provide practical evidence and support for developing transcoherence; that is, improving interactions across the boundaries of incommensurabilities between different collective coherences.

The topic of this interlude, *collective coherence*, was introduced in Chapter 1 and is a key theoretical concept for this thesis. It is also central to the focus of my research that disagreements between multidisciplinary team members are not always based on a difference of opinion over a particular, but often reflect a deeper conflict of colliding trajectories of one or more, alternative, coherent functional realities. It is these alternative functional realities that I am terming *collective coherences* and this interlude offers a detailed description of what I mean by this term. I do this by laying out my own stipulative<sup>17</sup> definition of *collective coherence*. My justification for making it is the wide range of contested meanings in the related literature (Tsoukalas, 2007). This is also the reason that this interlude is approximately twice the length of any of the others. To begin I elaborate on how I am using the term *collective*.

### *Collective*

I am concerned in this thesis about how coherence is shared and perceived within a *collective*. In using this term, I am not alluding to the collectives associated with the U.S.S.R. from the cold war era, with their Marxist overtones (White, 1986). I am using

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<sup>17</sup> A stipulative definition is a definition that provides a new meaning for a pre-existing expression with a pre-existing meaning. Stipulative definitions are typically used temporarily, for the sake of some argument or to give examples, since there can be no question of the definition being correct or incorrect. (Cook, 2009)

*collective* in contradistinction to *individual* (R. Williams, 1985). Therefore, I am concerned with the coherence that relates to groups (as well as individuals insofar as they represent and identify with coherent, bounded groups).

The nature of groups is primarily the purview of social sciences such as sociology, anthropology, social psychology and education, but has also been emphasised in other disciplines such as science and philosophy. The more common social science term, *social groups*, tends to emphasise the relationships between group members as “intentional human subjects” (Fenwick et al., 2011, p. 1). My interest, however, includes a broader socio-material consideration of the elements involved in coherence. Thus, my definition deliberately includes non-human *things* such as artefacts, tools, buildings, spaces, and the interrelationships between all of them and people. Therefore, terms such as *socio-material assemblage* and *actor-networks* (Müller, 2015) are closer to my use of *collective* than *social groups*.

Another key assumption I hold is that humans prefer to cohere/collect with others who hold a similar identity and purpose (Tsoukalas, 2007). This then creates a boundary between those who are in the collective and those who are outside. Within the collective, individuals will range from peripheral membership through to those who are recognised as core members (Lave & Wenger, 2002).

In describing *groups*, many disciplines and professions have identified something akin to my definition of collective coherence, in their own field of expertise. This idea has been presented under various labels such as *worldview* (Naugle, 2002; Sienra, Smith, & Mitchell, 2017; Sire, 2004), *paradigm* (Kuhn, 1962, 2012), *habitus* (Bourdieu, 1990; Grenfell, 2012), *frames* (Schön & Rein, 1994), *mental model* (Senge, 1990), *schema* (Bhattacharya & Han, 2001), *organisational culture* (Schein, 2010), and *knowledge cultures* (V. A. Brown, 2008). Rather than select one of these terms, I have chosen to use *collective coherence* as an *umbrella term* (Hirsch & Levin, 1999), a large and general container that can encompass all of these more specific meanings<sup>18</sup>.

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<sup>18</sup> This is also a good example of my use of definitions and technical language. A dictionary may provide a sense of the general area of meaning for a term in this thesis. However, in many cases I extend and stretch that meaning, overlaying multiple alternatives to the original word, or create a new word or phrase to act as an umbrella, encompassing multiple technical terms. This works as a mechanism for presenting the range of meanings inherent in the vocabularies of different disciplines and knowledge cultures.

So, having defined my use of collective, I now briefly layout the use of coherence in the literature before joining the two terms together and defining collective coherence.

## ***Coherence***

I am interested in both what *coherence* is seen to be and how it is experienced or sensed by individuals and groups. I present this idea from a critical realist perspective, with an assumption that the need for coherence is an innate drive which is overlaid by ongoing socialisation (Alcoff, 1996; Antonovsky, 1979; Festinger, 1957, 1962; S. Haack, 2013; Handel, 2006; Heine, Proulx, & Vohs, 2006; Lecky, 1945; Lenman & Shemmer, 2012; Letiche, Lissack, & Schultz, 2012; Piaget, 1972; Saul, 2002).

Etymologically, coherence is from the middle French, meaning ‘stick together’ and in modern usage has two main aspects to its definition:

- 1. Forming a unified whole:** “when things are coherent there seems to be a unity ... that is apparent to observers” (Letiche et al., 2012, p. 3).
- 2. Internal consistency between elements:** for something to be coherent primarily means it has internal consistency, or that its parts form a ‘logical’ arrangement or ordered relationship (Harper, 2015).

Apart from its more general usage, *coherence* has been adapted and used by a number of disciplines in a more specialised way. These include coherence in wave motion in light (Meschede, 2008), sound (Ziembowicz, Nowak, & Winkielman, 2013) and water in physics; ‘signal coherence’ in electronics; legal coherence (Amaya, 2011) in law; deep structural coherence (C. Alexander, 1999, 2002) in architecture; brain coherence (Bennet & Bennet, 2008) in neuroscience; discourse (Gang & Qiao, 2014), language (Aydin, 2012) and narrative coherence (Reese et al., 2011) in language studies; social coherence and ‘sense making’ in organisational theory; conceptual (Holtgraves & Giora, 2014) and logical coherence (Alcoff, 1996; Letiche et al., 2012; Olsson, 2005; Thagard, 2002) in philosophy; and perceptual coherence (Handel, 2006; Ziembowicz et al., 2013) and the ‘sense of coherence’ (Antonovsky, 1979) in psychology.

Each of these usages has characteristics that can be drawn on to contribute to the richness of my idea of *collective coherence*. Together they have helped me to improve my interpretation and understanding of the conflicts and collisions that I encountered between individuals and groups during my research.

**Consistency:** Used generally to mean the harmony or “agreement among themselves of the parts of a complex thing” (Delbridge, 2005). Used in logic as the opposite of inconsistency, it has a wider connotation in the social sciences, meaning “the mutual compatibility of a set of propositions” (S. Haack, 2013, p. 63).

**Pattern identification:** Coherence may be a consistent signal, pattern or wave that is isolated from the background ‘noise’. Experientially, coherence can be recognised by an observer either tacitly or explicitly (Ziembowicz et al., 2013, p. 273).

**Gestalt:** a German word meaning shape or form (Wong, 2010). It relates to the identification of order or useful patterns from stimuli and the interplay between parts and wholes; where a perceived whole is more than, and different from, the sum of its parts (Wong, 2010). ‘Good gestalt’ has been described as “encompassing the qualities of order, equilibrium, sharpness, harmony, integrity, completeness, complexity and an integration into a meaningful whole” (Sabar, 2013). Objects are seen as grouped together if they form a regular and simple pattern. This implies that humans perceive the world in a way that reduces complexity and creates a more simple and familiar view of reality (Todorovic, 2008).

**Sense order in chaos:** how individuals perceive coherence subjectively. Situations and events can be incoherent in the sense that they are chaotic and confusing (S. Haack, 2013, p. 65). Thus, a characteristic of coherence is finding a functional pattern and meaning in the midst of chaos. Put another way, this is how “people ‘discover’ organisation in objectively unstructured material” (Ziembowicz et al., 2013). Order and pattern recognition may be experienced as a sense of ‘consistency’, ‘regularity’, ‘reflective equilibrium’ (Thagard, 2002, p. 5), ‘ease’, ‘rightness’, ‘integrality’ and ‘familiarity’ (Ziembowicz et al., 2013), similar to gestalt.

**Harmony:** orderly and harmonious relationships between parts (Bennet & Bennet, 2008, p. 278), particularly in music and dance but also used metaphorically regarding coherence in complexity.

## Domains of coherence

Some authors conceive of human coherence as operating in more than one domain. This adds another dimension to the concept, multiplying the complexity characterising coherence. It also increases the number and nature of possible conflicts and collisions between collective coherences. A perceived conflict may in fact be over actions that are each acceptable in different domains. A simple example is the role of violence in sport verses in the workplace or family. A rugby league player may be extolled for thumping someone on the football field<sup>19</sup> but find himself facing court for the same action at a night club<sup>20</sup> or the bedroom<sup>21</sup>.

Action in one domain may also influence or leak into other domains. Precisely defining the idea of a domain is difficult, as authors differ on exactly what is meant by the term. The following three sets of authors illustrate this point.

**Howard Gardner's** (1999, 2000, 2007) concept of individuals having multiple intelligences refers to the functioning of different intelligences in a way that can be seen as operating in different domains linked to coherence. He identifies *eight* different intelligences: interpersonal, intrapersonal, musical, kinesthetic, naturalist, visual-spatial, linguistic-verbal, and logical-mathematical. By breaking away from a single domain of 'intelligence', Gardner revolutionised some of the underlying assumptions of learning, education, and IQ testing.

**Thagard** (2002, p. 41) identifies *five* different kinds of 'epistemic coherence': explanatory, analogical, deductive, perceptual, and conceptual. Each kind employs different elements and different constraining relationships between the elements.

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<sup>19</sup> i.e. Bring back the biff, see <http://www.urbandictionary.com/define.php?term=bring+back+the+biff>

<sup>20</sup> League players in 'brawl' <http://www.dailytelegraph.com.au/sport/nrl/video-jorge-taufua-jacob-loko-in-violent-brawl-outside-sydney-nightclub/story-fni3fbgz-1227274940996>

<sup>21</sup> NRL Dumps el Masri for domestic violence <http://www.smh.com.au/rugby-league/former-bulldogs-star-hazem-elmasri-charged-with-domestic-violence-offences-20151019-gkdb8l.html>

Under perceptual coherence, he further identifies four kinds of sensory coherence: visual, auditory, olfactory and tactile (Thagard, 2002, p. 57).

### ***Collective coherence - my stipulative definition***

Bringing the two words *collective* and *coherence* together generates a label that 1) not only has an immediately recognisable broad meaning which can be filled out with deeper, more technical meanings that align with and build on the use of 'coherence' in multiple disciplines, but 2) also allows for the addition of new meaning that will be introduced throughout the thesis. Since inventing the term in 2013, I have checked to see if anyone else has used the phrase in a similar way. Until late 2017 there was nothing, but recently W. L. Gardner and Garr-Schultz (2017) have used the term to describe a related psychological idea, and therefore I need to briefly distinguish between our two uses.

Their psychologically-based concept is linked to a person's "self-concept clarity at the collective level" (p. 125). They use collective coherence to refer "to the process of integrating all of one's distinct group identities in a coherent structure" (p. 125). They further define it as:

"the degree to which an individual's multiple collective identities are subjectively perceived as harmonious and/or complementary, allowing for a unified and coherent sense of self" (p. 127).

*Collective* for them then relates to an individual's collection of group identities. In contrast I am using *collective* to refer to the group as a whole; for example, a collective of violinists. To reduce confusion, I will use the phrase *multiple group identities* as my equivalent for their concept, which is still important in my research. With this in mind I can present my definition.

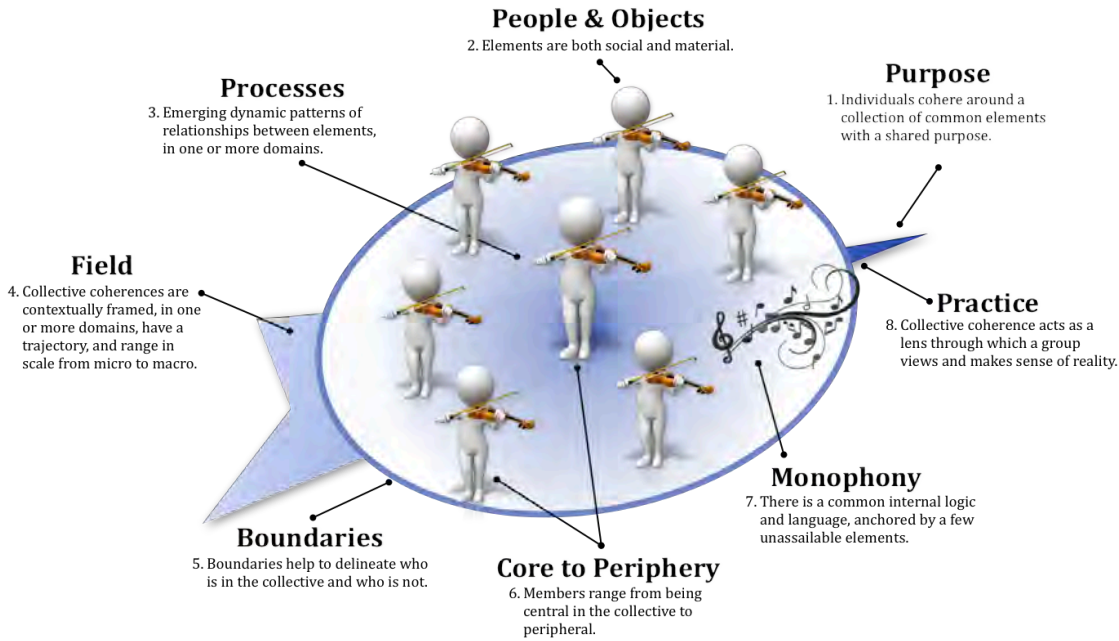
In this thesis my stipulative definition both provides a synthesis of the literature, and goes beyond the individual concepts, to create a new whole. I have created eight headings for the elements of my definition which will be used throughout the thesis.



1. **Purpose:** collective coherence occurs when individuals cohere around a collection of common elements forming a bounded group with a shared purpose.
2. **People and Objects:** these elements are both social and material and thus potentially include anything human and/or non-human.
3. **Processes:** collective coherences contain emergent dynamic patterns of relationships between elements, in one or more domains, that form a whole that is more than and different from the sum of its parts.
4. **Environment:** collective coherences are contextually framed, in one or more domains, have a trajectory, and range in scale from micro to macro.
5. **Boundaries:** help to delineate who is in the collective and who is not. They may differ in permeability, width and strength.
6. **Core to Periphery:** members range from being central in the collective to peripheral.
7. **Coherence:** collective coherences have an internal logic and language, anchored by a few unassailable elements.
8. **Action:** collective coherence acts as a lens through which a group views and makes sense of reality, and is used for evaluation, decision-making and action.

My definition can also be represented in a visual form. Core Visual Heuristic B.2 builds on the visual example provided in the introduction, of a collective of violinists. This rich picture (Stafford, 1999) identifies a specific bounded collective of violinists, and the metaphor of a musical group ties together all the definitional phrases. This graphical representation is important due to the multiple domains involved in coherence (if it were possible, I would accompany it with an auditory example).

## Core Visual Heuristic B.2. A musical group as an example of collective coherence



With my stipulative definition in place this interlude is nearly complete, but there is one idea that I want to expand on before concluding: anchor points.

### Anchor points

Under Heading 7 *coherence*, I state that the internal logic of a collective coherence is anchored by a few unassailable elements. To explain this further I draw on the concept of *anchor points*, particularly as it is used in rock climbing (Lucas, 2016) and safety (Cuthbert, 2019). In both cases an *anchor point* is a specific, fixed location that is secure and stable, to which a rope can be fastened. Climbers are then able to move freely up a cliff face with the knowledge that they will not fall further than the last anchor point (see Photo 1). The cliff face may be traversed by multiple climbers, but not all will use the same anchor points.

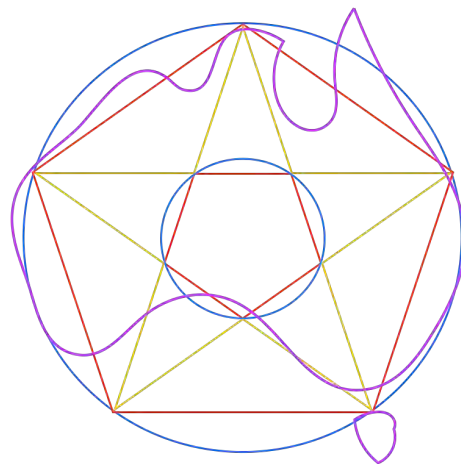
**Photo 1. *Rock climbing anchor points***<sup>22</sup>



Other authors have taken this physical image and extended it into their own discipline. Anchor points have been used in psychology (Maitlis & Sonenshein, 2010), management (Tost, 2011) and transdisciplinary research (Darbellay, Moody, Sedooka, & Steffen, 2014). My use is similar, defining an anchor point as a fundamental reference point that provides a key source of support and stability to a collective coherence. They are an essential core aspect for the group and unconsciously unassailable.

Anchor points may be found under any of the headings in Core Visual Heuristic B.2 above. For example, a physical violin will be an anchor point for the group of violinists. Something may be an anchor point for one group but inconsequential for another. In addition, different groups may use the same anchor points but connect the whole together in different ways (see Figure 9). Details on anchor points will emerge throughout the thesis.

**Figure 9. *Multiple coherent shapes using some of the same anchor points***



<sup>22</sup> Retrieved from <https://www.rei.com/learn/expert-advice/climbing-anchors.html>

## ***Conclusion***

In this interlude I have set out my concept of *collective coherence*. Many similar concepts can fit under this umbrella term, and its use allows me to utilise multiple theoretical frameworks to make sense of the collisions I observed during my fieldwork. Collective coherences range in scale and exist in multiple domains. For each collective, certain elements of their coherence will act as anchor points but these points will not necessarily be the same in all groups.

This is also a foundational concept and therefore has been placed in the first movement of my thesis. The following chapter shifts focus from introductory information on who, what, when, and where, to an explanation about my methodology.

## Chapter 2: Methodological Introduction

Chapter 1 introduced my thesis' purpose, context and structure. This chapter adds to that information and introduces my research methodology. Together, with their associated interludes, they lay the foundation for the thesis itself. Using my musical metaphor, they act as the first of three movements in the thesis and *set the scene* for the two movements that follow, *Collisions of Collective Coherence* and *Bringing it Altogether*.

To investigate the problem of collisions of conceptual worlds in multidisciplinary teams required immersing myself into the work and lives of the team. As a researcher, this was both a privilege and a rare research opportunity. Being a member of the A2J2 team allowed me to observe events *insitu*, with an awareness of the relational context behind those events. My research methodology was shaped to take advantage of this opportunity. The critical moment in this chapter illustrates this. For the weft, I will be relying heavily on the previous chapter to explain the context for the research. The warp will explain the theoretical basis of my methodology. Finally, the weaving of warp and weft will look at the application of my methodology in its particular context.

### ***2.1 Critical moment: “I think I have a wicked problem”***

I offer the following moment as an example of a life experience both enabling and constraining my research. In this critical moment ideas and actions came together, the trajectory of historical threads touched in passing, entwining them into alignment and a new possibility of collaboration. As a snapshot in time, it hints at what has come before and the potential of what may result.

In October 2012 I was working for a client (Catherine) and mentioned my interest in ‘wicked problems’. Her response was, “I think I have a wicked problem. Could we chat about it?” A meeting was subsequently arranged, during which she laid out her problem while I plotted her comments on a graph designed for evaluating the perceived level of a problem's wickedity<sup>23</sup>. This graph is a subjective, measurement tool I had developed

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<sup>23</sup> A standard term, ‘wickedity’ was used by Bore and Wright (2009, p. 254) to describe degrees of

during research for my Master's thesis. Previous use had mostly produced results that identified the problem under review as not wicked. As Catherine described her problem, I expected a similar result, but was surprised when all but one of the dimensions scored a full five out of a possible five marks. This was clearly a wicked problem.

Catherine expressed relief at having her hypothesis validated, and explained that she was setting up a project to look into an exploration of policy options related to the problem. Then, unexpectedly, she offered me a paid position on the multidisciplinary team, as a consultant on collaborative process. I declined, stating my need to work on the early stages of my thesis, and that was the end of the meeting.

Within a few days a previous potential participant group for my research fell through, and in reflecting on my meeting with Catherine, I realised that her project could be an ideal alternative for my research. A few emails back and forth and we had reached an agreement. I would provide my consulting services for free as a part of the project team, and in return I would have full access to the project people and documentation as data sources for my research.

One final element of this moment occurred a week or so later as Catherine and I discussed the arrangements. We each presented the other with a surprising demand. I presented the case for the full participation of the project team as research partners, and in response Catherine made the claim that if I was to be a true team member I would need to work in an office in her branch. And so my research began.

The moment described above was critical to the project, and introduces key elements in the development of my methodology. First, it illustrates the importance of context for any explorative qualitative research (Willetts & Mitchell, 2017). Second, it shows the dual foci of that context. These are 1) the wicked problem for the A2J2 project, and 2) the collaborative issues of the team for myself. Third, it gives a glimpse into the messy entanglement of theory and practice that was the lived experience of those involved in my research. My use of warp and weft helps to untangle theory from practice, hence the structure of each chapter.

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wickedness while avoiding moral overtones and it has been taken up in the literature since.

## ***2.2 The weft: life experience in the research context***

A researcher brings a whole personal and professional history to bear when they conduct research (Law, 2004). Who I was in late 2012 had a major bearing on how my doctoral research began and how I chose its methodology. To make this explicit requires both self-reflection and reflexivity (Cunliffe, 2016). Both of which have also been seen as a critical element in transdisciplinary research and a criteria for evaluation (Willettts & Mitchell, 2017). (This will be taken up in the warp of this chapter).

To this end I now briefly outline the role of my own life experiences in the early shaping of my research methodology. Demographically, I am a happily married, middle aged, white, male with a hybrid *class* parentage. My mother comes from what is known as the working class, my father from the so-called privileged ruling class.

I left school at fifteen to begin a trade. Since then I have changed jobs about every two years, including time as a book seller, teacher, youth worker, software developer, counselor and consultant. Each of these reflect my interest in caring for people that began with my conversion to Christianity in the late 1970s.

As a mature aged student, I completed an undergraduate degree and a graduate diploma in education. In my late 40s I returned to university to complete a Masters thesis, following which I commenced this research. My consulting business has been operating for over 25 years, and is still my primary form of income.

This background has left me with a major driving question both personally and professionally: **Why do groups made up of normally reasonable people fragment and fall apart?** This has left me sympathetic to the views of the marginalised and the need to improve the relationships between group members.

To reduce 50+ years of life to less than a page does not do justice to the complexity and richness of my background. Equally important are the similarly rich contextual histories of all the people and institutions connected to my research. The focus and length restrictions of this thesis does not allow me to add their full stories here but snippets of their experience, (and mine), will be used as evidence throughout the thesis, particularly in the wefts of the chapters.

In addition to experiences of family, career and education, ideas I have encountered during my life oriented my initial research focus.

### 2.2.1 Orienting concepts

Layder (2005) speaks of the advantages that specific concepts can give to an initial orientation to research: “By using such orienting devices the researcher is provided with a preliminary means of ordering and giving shape to a mass of data.” (p. 24)

Beginning a doctoral thesis in my 50s, rather than my 20s, meant that I possessed a wealth of ideas linked to professional concerns I had about multidisciplinary teams. A number are listed in Table 2, along with the main author/s associated with each concept, and where in this thesis I discuss them in detail.

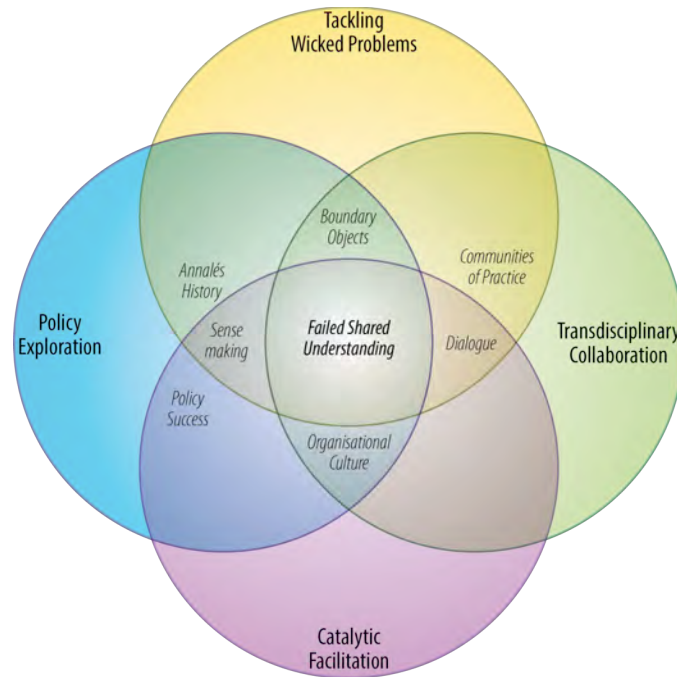
**Table 2. Orienting concepts and where in the thesis they are discussed**

Orienting Concept	Seminal Author/s	Thesis Section
Metaphor	(Lakoff & Johnson, 2003)	Prelude: Introducing Multiplicity
Wicked Problems	(Rittel & Webber, 1973)	Chapter 2
Facilitation	(R. Schwarz, 2002)	Chapter 2 & 9
Sensemaking	(Klein, 2013; K. E. Weick, 1995)	Chapter 3
Boundary Objects	(Star, 1989)	Interlude: Overcoming Boundaries
Organisational Culture	(Schein, 2010)	Chapter 6
Policy Success	(McConnell, 2010)	Chapter 8
Dialogue	(Bohm, 1996) & (Isaacs, 1999)	Interlude: Learning from Dialogue
Communities of Practice	(Wenger, 1998)	Chapter 9 & 10

In preparation for my research I grouped this collection into four overlapping primary concepts or themes, which I presented as my research focus in Chapter 1, Figure 5. Building on this, Figure 10 presents a more detailed version, with all my orienting concepts added to the original illustration. Each of these areas is the purview of different disciplines and organisations, and each has its own history of development and methods for research. However, combining these individual bodies of knowledge reveals an intersection between them that can be viewed as a gap of unexplored potential. I initially labelled this space **Failure to reach a shared understanding** and it became the fifth and primary orienting concept, as well as the forerunner for the focus of my research.



**Figure 10. Five overlapping primary orienting concepts**



The idea of creating a *shared understanding* appears frequently in the literature on wicked problems, and is almost universally unquestioned (Bore & Wright, 2009; Cutler & Burry, 2010; Marback, 2009). A strategic Australian Public Service Commission (APSC) document in (2007) noted the “key importance of creating a shared understanding of the wicked problem among the range of organisations that can contribute to a full understanding and comprehensive response to the issue” (p. 21).

However, from my Masters research I reached the conclusion that any significant level of shared understanding is an elusive thing and potentially impossible (Cuppen, 2011; Donaldson, Ward, & Bradley, 2010; Houghton & Tuffley, 2015). Consequently, I wanted to better understand how individuals who belong to different collectives, and don’t share a common understanding, can work together to tackle wicked problems. Therefore, I refined my research focus to **collisions between different collective coherences** and what can be done to manage the consequences of these collisions for the benefit of teamwork. In practice, this is central to the work of any multidisciplinary project team that is tackling a wicked problem. These teams are set up to achieve goals that assume collaboration between different types of expertise.

My reliance on orienting concepts was not static. As the A2J2 project progressed our collective experience led to the identification of other crucial concepts that reoriented both our work and my research.

### 2.2.2 Reorienting concepts

New ideas emerging throughout the research added detail and clarity to my findings and analysis. Table 3 identifies the key authors for each concept and where in my thesis I have discussed the relevant literature in detail.

**Table 3. Reorienting concepts and where in the thesis they are discussed**

Re-orienting Concept	Seminal Author/s	Thesis Section
<b>Faultlines</b>	(Lau & Murnighan, 1998)	Chapter 1
<b>Coherence</b>	(Letiche et al., 2012; Thagard, 2002)	Interlude: Clarifying Collective Coherence
<b>Serendipity</b>	(McCay-Peet & Toms, 2015)	Chapter 2 (This chapter)
<b>Threshold Concepts</b>	(J. H. F. Meyer & Land, 2003)	Chapter 3
<b>Tacit</b>	(Polanyi, 1966)	Interlude: Speaking About the Tacit
<b>Legitimacy</b>	(Tost, 2011)	Interlude: Gaining Legitimacy
<b>Habitus and Fields</b>	(Bourdieu, 1977)	Chapter 7

To employ another metaphor, I found each of these concepts equivalent to being given a new camera lens; one that enabled me to take photos that I had previously found beyond the capabilities of my camera and experience. Each of these metaphorical camera lenses has become an important tool for expanding my concept of transcoherence.

The autobiographical elements of the weft in this chapter combine with the descriptions in Chapter 1 to explain the beginnings of my research. Together they outline the contextual life experience that set the direction for the development of the theoretical aspect of my methodology, which is addressed in the following section, the warp.

## 2.3 *The warp: a multidimensional research methodology*

Since I want to understand collisions of collective coherence between diverse groups of people in a single team, I have chosen a qualitative research methodology

as most appropriate. However, there are a “baffling number of traditions” to choose from (Creswell, 1998, p. 4). To refine and explain my choices, I have chosen a *funnel* (Crotty, 1998) as a metaphor that provides a useful structure for describing the process by which I developed my methodology. Specifically, I will use L. Van Kerkhoff’s funnel model (Figure 11) (Personal Communication March 2013), as it helpfully groups together layers in the decision process and links relevant questions to each layer.

**Figure 11. Van Kerkhoff’s Funnel model.**



Where the metaphor breaks down for me is its linearity, an assumption of more options at the top, narrowing as it moves down towards Methods. Since any metaphor enables some types of thinking whilst constraining others (Carew & Mitchell, 2006; Lakoff & Johnson, 2003), I will use the elements of Van Kerkhoff’s model, but break the metaphor by introducing an iterative process, going up and down the funnel, as well as adding additional elements including a final Outcomes layer. This rearranges the model from a funnel to a stack of discs (Figure 12).

This allows me to describe my research process as moving between layers in a non-linear and highly organic fashion, making the dynamic nature of my methodology more explicit (Riedy, Fam, Ross, & Mitchell, 2018, p. 42). This also places my research within the broad description of transdisciplinary research, where an emergent or evolving methodology is seen as a critical element (Wickson, Carew, &

Russell, 2006) The resultant decision process is more complex and has been described by some as *Bricolage*, which has a lengthy and complex genealogy (Altglass, 2014). As such, it requires a brief explanation to fill out its relevance to my research.

**Figure 12. Van Kerkhoff's Funnel - adapted to a bricolage model**



### 2.3.1 Researcher as bricoleur

Denzin and Lincoln (2011) use multiple metaphors to describe the researcher as *bricoleur* (a French term for a *jack of all trades*). All of them move away from the linear and mechanical characteristics of a funnel to images of human crafts, imagining the researcher as *fieldworker*, *artist*, *jazz musician*, *film maker* and *quilt maker* (pp. 4-6). Each of these creates a *bricolage* by putting together the bits and pieces (*bricoles*) of the world, a creative rearrangement or exploitation of existing resources or materials (Lambotte et al., 2013, p. 86), to form something new (Denzin & Lincoln, 2011). Therefore, while bricolage is unusual, it is a more relevant and useful research metaphor for the particular context of this thesis.

The *bricoleur* researcher is not arbitrary or random in their choices, but is constrained by their research purpose and the multiple coherences linked to their life experience and encountered in the field. So “bricolage has coherent patterns” (Altglas, 2014, p. 475), a process of negotiation where the appropriation of elements is not eclectic or boundless, but results from asymmetric cultural encounters.

My research methodology can be described more specifically as *Adaptive Coherent Bricolage*, wherein the researcher as *bricoleur* works within and between competing and overlapping perspectives and paradigms, adapting to contextual opportunities (particularly important when dealing with wicked problems). This is similar to other researchers who have sought to go

beyond ‘bricolage’..., merely using something what is at hand, but rather... working simultaneously with existing means and materials to solve existing problems, and using them as innovative solutions for new problems... creatively to serve different purposes and functions than originally intended (van Breda & Swilling, 2018, p. 831)

This requires an understanding that the research process is “shaped by one’s personal history, biography, gender, social class, race and ethnicity and those of the people in the setting” (Denzin & Lincoln, 2011, p. 5). Hence my biographical elements in the weft above and in the previous chapter.

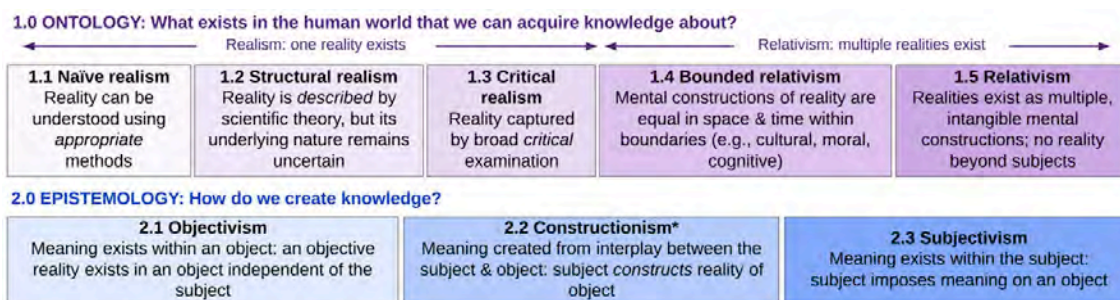
What then does this idea of *adaptive coherent bricolage* do to the value of the funnel in Figure 11? On the one hand, very little. The categories and layers are still useful for comparing and discussing different research methodologies. They also promote focused discussion on specific issues relating to each layer. On the other hand, a *bricoleur* does not obey the boundaries inherent in the model, often blurring categories together or mixing them in unorthodox ways. Thus, my adaptation of the funnel in Figure 12. The next section demonstrates what I mean by this and how it is expressed in my research.

### 2.3.2 Overlays of ontology and epistemology

The top two layers of both models are *Ontology*, “what we believe about the nature of reality” and *Epistemology*, “how we know what we know” (Patton, 2002, p. 134). Research methodology literature frequently structures each of these concepts into a grid to reflect the potential options (Figure 13).

In this example the cells of the grid are organised on a philosophical spectrum from a Realist position on the left to an Anti-realist one on the right. This fundamental dualism identifies a tension at the most basic level of research. Do I as researcher believe a single reality exists (realism), or are there multiple realities (anti-realism/relativism)? The answer affects what methodologies I will be happy to work with and what sort of evidence I will use.

**Figure 13. Excerpt: Social Science Research Guide** (Moon & Blackman, 2014, p. 3)



So by using the grid in Figure 13, I should be able to describe the philosophical position of this thesis in the first two layers of the research funnel. Yet I can't! - for at least two reasons:

- 1. My own ambiguous ontology and epistemology:** While I could describe myself as a *sort of* critical realist, as shown in Figure 13, I think that a single descriptor is misleading. As an *Adaptive Coherent Bricoleur*, I see value in many of the cells on the ontological and epistemological layers. Also, as a Christian, I find the grid incomplete and the structure excludes some theological alternatives<sup>24</sup>.
- 2. The multiple theoretical frameworks in the thesis:** This is a transdisciplinary thesis and therefore involves multiple areas of expertise and disciplines, each founded on their own ontologies (Willetts & Mitchell,

<sup>24</sup> While I could discuss at length my complex personal belief system, it is unnecessary for this thesis and would distract from the point of this chapter.

2017). Indeed there are collisions among my research frameworks themselves, and each alone is “ill adapted for the study of complex and messy objects” (Law, 2005, p. 331). To make the thesis whole, these multiple frameworks need to be used together.

This is why my structural metaphors are important. Rather than synthesise different frameworks, or pick just one, I weave together multiple frameworks into the structure at both a micro and macro level. The micro structure within each chapter is made up of the theoretical framework of that chapter (the warp), which brings some concepts to the fore. Grounding that framework is that chapter’s data (the weft). Therefore, each chapter has its own ontological position.

Tying the micro elements together into one main image is the macro structure of the thesis. For this I use a musical metaphor with symphonic movements of chapters and interludes. This symphony retains the coherence of each chapter by creating a *synoptic layering* of theoretical frameworks, rather than a synthesis. I use *synoptic* as derived from the Greek σύνοψις (synopsis), meaning “affording or taking a general view of the whole or of the principal parts of a subject” (Delbridge, 2005). Thus, instead of conflating the frameworks into a single synthesis, I seek to preserve the integrity of each by juxtaposing them. This creates a form of parallelism or layering, allowing similarities, differences, and contradictions to be seen without an attempt at resolution; in the same sense as in the synoptic gospels in the Bible’s New Testament (Danker, 1988). In order to illustrate this synoptic layering, I turn to the next two layers of the bricolage model: Theory and Strategy.

### **2.3.3 Research theories and strategies within chapters**

Each chapter and interlude operates with its own research theory and strategy, which are the next two layers of the funnel model. Van Kerkoff proposes a question for each of these two layers and they are answered in the warp of the respective chapters and in the body of the interludes. The questions are:

- Theory - What ideas and concepts will I apply to understand?
- Strategy - Which research design or approach best fits?



In the funnel model the theory and strategy layers flow from the ontologies and epistemologies in the layers above. In contrast, in my bricolage model, I would argue that theory can also flow upward into the two layers above, developing understanding of the more philosophical layers. All of the theoretical frameworks used in this thesis are also able to function within my overarching research theory and framework.

### **2.3.4 Research theory and strategy**

This section addresses the theory and strategy layers of the funnel for the thesis as a whole. In response to the question, “Which research design or approach best fits?” my answer is a design that flows from my specific overarching bricolage methodology. I have called this specific research approach *catalytic facilitation of collaborative action research*. This draws from both the literature and my own experience as a consultant. Although my research design only works as an integrated whole, I will parse each part of the phrase to describe the elements.

#### **Catalytic facilitation**

Processes in the project were not controlled solely by the head of the project, nor did they function spontaneously, rather I was asked to join the team as *facilitator* of the *collaborative process*. In practice, this resulted in me having multiple roles in the project. I was a team member, while at the same time being a participant, acting as an observer, and finally providing facilitation on most of the activities. How this worked in detail is described in each chapter and the theoretical underpinnings for my particular view of catalytic facilitation is explained in the interlude, Reflecting on Catalytic Facilitation. Crucially for my methodology, my particular form of facilitation placed me as a peer, collaborating with the other team members.

#### **Collaborative**

My chosen form of action research (see next section) is collaborative, designed to “overcome the separation of the researcher and the researched” (S. Chen, Huang, & Zeng, 2017, p. 6). This idea is most frequently spoken of in terms of the level of *participation* of the research participants (Kendon, Pain, & Kesby, 2010), and the



amount of participant *inclusion* (Quick & Feldman, 2011), and is dependent on the focus, approach and purpose of the research. Participation is also seen by some as an element of transdisciplinary research (Riedy et al., 2018).

These types of approaches are often called *Participatory Action Research* (PAR), but I have labeled mine *collaborative action research* because of the specific nature of the participation. In line with Kuenkel (2016), I see the collaboration with my participants as a form of “co-creation” (p. 2), which is crucial as “solutions cannot be found in isolation” (p. 4). As she argues, “collaboration among different actors is not only paramount, it is also the sole route to successfully addressing the challenges we face” (p. 4).

The relationship arrangements in my action research were also deliberately similar to how I function as a consultant. I consider myself and my clients to be in a partnership, where my role is to try to *help* the client. In this I have been influenced by Edgar Schein (1999b, 2010, 2013, 2016) in two ways. First, by his idea that the most useful organisational research is when a *scholar/practitioner* (a hybrid role), conducts *clinical research* (that is research *in situ*).

Second, Schein claims the “important point is to approach the organization with the intention of helping, not just gathering data” (p. 184). He has described this approach as both *humble inquiry* (Schein, 2013) and *humble consulting* (Schein, 2016).

In my case, a central anchor point in my professional relationships is to *seek the best for the other*. This is a Christian concept based on the Greek term ἀγάπη (*Agapé*): “The intention to seek the best for the other person, to give from the heart” (Morris, 1981, p. 123). Since, as a finite human, I don’t immediately know what ‘the best’ might be, I need to inquire, in partnership with them, and this neatly matches the idea of humble inquiry.

Schein (2016) also aligns with literature on transdisciplinarity, recognising that when diverse teams tackle a *wicked problem*, successful collective action requires specific aspects of *transdisciplinary collaboration*. Drawing on Schein and other literature I have identified five transdisciplinary and collaborative principles for my action research:

1. **Being problem and process focused**, aiming to tackle complex social issues in real world contexts (J. T. Klein, 2014). Also described as **purposive**: “positive change within a wicked situation is an explicit goal of the research” (Riedy et al., 2018, p. 42) To be really *helpful* requires locating the *underlying* problems (Schein, 2016).
2. **Integrating knowledge from both theory and practice**, including involving actors from outside academia (Gaziulusoy & Boyle, 2013; Lang et al., 2012; Pohl et al., 2017; Polk, 2014). This requires open and trusting communication (Schein, 2016). To achieve this requires building a deep (level 2) relationship, beyond a professional level (Schein, 2016), including in-depth, participation of these actors (Mobjörk, 2010; Pohl, 2011). A level 2 relationship requires a willingness to be personal and genuine (Schein, 2016), requiring learning, both individually and collectively (V. A. Brown et al., 2010; Wiek & Walter, 2009).
3. **Recognising the dynamic nature of research**. Plans need to adapt changes in the context (Riedy et al., 2018, p. 42). To make sense of the *problem* requires a *joint dialogic process* (Schein, 2016); transcending the boundaries of disciplines and therefore requiring some form of co-ordination, collaboration and integration between different disciplines and areas of expertise (Gaziulusoy & Boyle, 2013; Simon & Schiemer, 2015).
4. **Being innovative and experimental**. Real-world interventions can be tested in the work situation (Riedy et al., 2018, p. 42). Decisions need to be made jointly on priorities and actions (Schein, 2016). Therefore, careful ongoing joint review is essential (Schein, 2016), including an open and iteratively developing set of research methodologies (Gaziulusoy & Boyle, 2013).
5. **Being responsive**: The goal in tackling complex or wicked problems in this way requires a willingness and capacity to be *responsive*, defined here as  

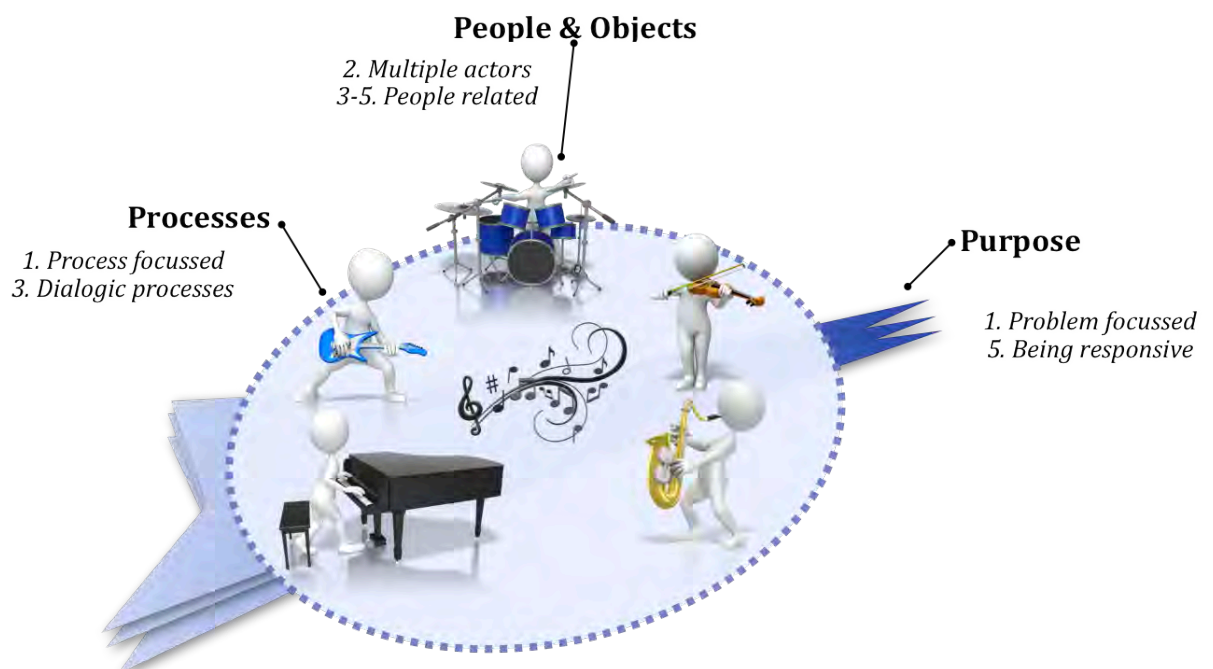
adjustments or adaptations in a research process as the result of close engagement with the research context (and relevant stakeholders) and evolving understanding (quite possibly from an epistemological perspective) of the most appropriate, credible and relevant research questions and approach. (Willetts & Mitchell, 2017, p. 128)

This in practice has also been described as identifying “feasible adaptive moves” (Schein, 2016, pp. 22-23). *Adaptive moves* are a form of *tackling*, not solving, a problem and are considered by Schein to be “workable responses”... that “implies action without necessarily having a plan or solution in mind” (p. xiv). The *adaptive* element identifies them as “actions intended to improve the situation and elicit more

diagnostic data for the planning of the next move” (p. 191); while *moves* “are small efforts to improve the situation, not grand plans or huge interventions” (p. 191).

One final comment on collaboration. There is deliberate, strong overlap between the eight elements of collaboration required for my research and my model of transcoherence. Core Visual Heuristic C.3 identifies the three elements of transcoherence most strongly linked to the elements of collaboration described above. The collaborative elements are shown in the lists under each heading. Another change is that I have removed the conductor/catalyst from the model because much of the literature assumes that groups will be self-organising in their collaborative efforts (Engeström, Kajamaa, Lahtinen, & Sannino, 2015; Sedgwick, 2016).

### **Core Visual Heuristic C.3. *Overlap of collaboration and transcoherence elements***



### **Action research**

The final element in the design of my research strategy is *action research*, of which there are many types in the literature (S. Chen et al., 2017). The many options reflect the multiple purposes for which it has been used (Jefferson, 2014). It has also been associated with multiple philosophical positions, including critical realism, bounded

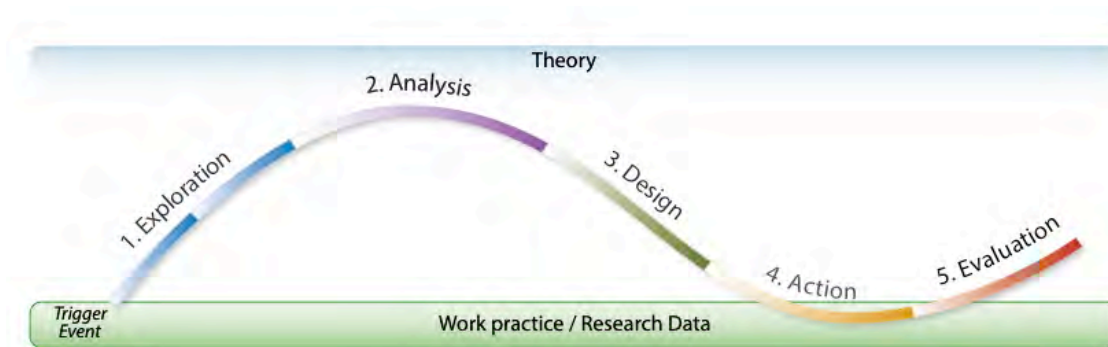
relativism and relativism (S. Chen et al., 2017; Coghlan, 2011). Since the early work of Lewin (1946) there has been an emphasis on *action* or *practice* in this type of research because of the view that “knowledge without practical outcomes was inadequate” (Dick, 2015, p. 436). Two assumptions connected to this are central to my research:

1. “It is not possible to study a human system without intervening in it.”
2. “We can only fully understand a human system by trying to change it.” (Schein, 2010, pp. 185-186).

So from this perspective “research cannot be merely about describing reality but, instead, is about human participants aspiring to transform reality” (Ospina & Anderson, 2014, p. 2). Therefore, action research is defined as an interventionist change process that is connected to an “approach to knowledge production associated with the action turn, [wherein] theory is not applied to action, but rather theory and action inform each other in ongoing spirals of action and reflection called praxis” (Ospina & Anderson, 2014, p. 3).

The cyclical movement from action to reflection and back to action has been visualised in different ways, often through the use of circles or spirals (Hill, 2014). I developed my own visual model some decades ago based on various change management theories, including the work of Golsby-Smith (2001). It is shown in Core Visual Heuristic D.1, and variations of it were used throughout the project. Like the other Core Visual Heuristics, it will be built on throughout the thesis.

### Core Visual Heuristic D.1. *My action research wave*



The overall form is of a spiral stretched out into a wave shape moving between the bottom layer of practice/data (action) and an upper area of potential theoretical inputs (reflection). I chose a wave over a spiral because it makes more sense to those I work with, as they usually have a practical emphasis on the forward movement of time. It is a *dialogical*<sup>25</sup> strategy in nature, which also situates it in the more recent organisational change theories of “dialogical organisational development” (Bushe & Marshak, 2015). There are five phases to my model of action research, which is triggered by a critical moment.

**Trigger event:** Before the wave begins, participants are in the practice/data layer, functioning in normal work practice. Something then *triggers* a need for reflection, such as a problem or the need for change. The events described in my various critical moments throughout the thesis are examples of this.

1. **Exploration:** The first phase is diagnostic, exploring the critical moment, current work practices and thinking. Data, stories, and reflections are gathered, in preparation for the second phase.
2. **Analysis:** The second phase examines the data with relevant analytical frameworks and tools. Deciding what theories will be helpful in the next phase emerges during this phase.
3. **Design:** This phase takes the analysed data and relevant theories to develop a possible change intervention. Design may include prototyping or pilot projects to trial changes in contained conditions.
4. **Action:** The actual intervention in the workplace, where design is enacted *insitu*. It brings the movement from work action to reflection and back again.
5. **Evaluation:** This phase is transitional, finishing off one cycle of action-reflection and potentially setting up the next. This phase also begins in work practices, checking with those affected by the change on their perceptions of its value.

How each individual phase works out in practice is detailed in Chapters 3-7. The model was useful throughout the project, but the lived experience was much messier than the diagram suggests. The emergent nature of the project and the various constraints described in each chapter, meant that there was no one single

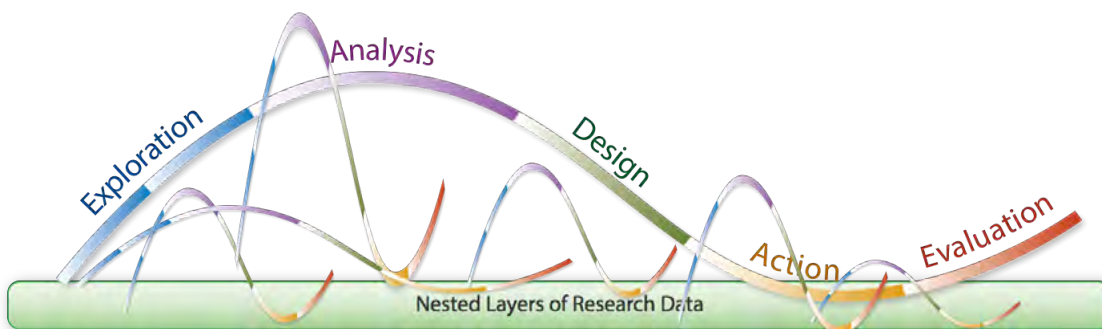
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<sup>25</sup> See Interlude: Learning from Dialogue

pure use of the wave. Rather there were multiple, overlapping waves of different shapes and sizes, occurring haphazardly.

Core Visual Heuristic D.2 is a conceptual representation of this messiness. The different horizontal lengths indicate the differences in the length of time it took to work through the phases. The vertical heights identify the degree to which theory was drawn on to support the process.

**Core Visual Heuristic D.2. *Multiple action research waves in practice***



Over time, the participants and I learnt to consider this messiness an advantage rather than a fault with our process. It allowed us to leverage off the emergent properties of the situation and make the most of serendipitous occurrences, particularly our collaborative ones.

Being a catalytic facilitator of the collaborative action research makes me an integral part of my own methodology, a subjective position that seeks to bring the best out of the others involved in the research. This requires a constant emphasis on weaving together action and reflection, which I will explore in the next section.

## ***2.4 Weaving warp and weft: methodology in practice***

As previously noted, my decisions regarding my methodology were not primarily linear and logical. Instead, I was often confronted with brief windows of opportunity to respond. This was due in part to the *situational constraints* (shown on the left side of my model in Figure 12). Therefore, weaving the warp and weft in this chapter will be focused on my experience of developing my research methods (the layer second from the bottom in the funnel model) and the role of serendipity in the outcomes of my research (the final layer).

### 2.4.1 Research methods

My choice of research methods faced a number of situational constraints that are addressed by van Kerkhoff's two questions associated with methods: What will I actually do? and, What will I use? Both these questions are tied to the start of the A2J2 project. Together, Catherine and I needed to clarify what my role as *process consultant* would mean in practice for the project, and how I would use it for my research. Access to the participants was problematic as it was difficult to find time to spend with them for research purposes. My contacts with non-core team members was sporadic and limited, partly due to their organisational seniority, meaning that they were all extremely busy. Although I spent most of my time with the Core Team, they were reluctant to *waste time* chatting about process issues unless they saw an immediate need.

So, within the multiple constraints Catherine and I negotiated a number of possible research methods. I then renegotiated these options with my supervisors and finally with the people from my university's ethics area. Eventually I had a suite of multiple methods that can be grouped into several different types.

**Self-reflective:** This includes methods that focused on me as the researcher. In practice these were primarily observational notes made throughout the project. These included concept maps (Novak & Cañas, 2006) I scribbled during discussions, voice notes made in haste between meetings, and reflections written at the end of each day.

**Informal interactions:** These were small ongoing activities, including many cups of tea and coffee, while chatting. I found this a vital way to gain rich insights into how other people make sense of what is happening and to build trust and relationships. Related to this were many phone calls, due in part to the wide geographical dispersion of those involved in the project. Finally, in this set of methods were the over 5,000 emails, an ambiguous form of communication that ranges from informally personal to formal (van Vree, 1999).

**Formal research activities:** First was the analysis of the data from the wealth of documentation that was either generated by the project or given to it by others.

Second, were my forty semi-structured interviews, as defined by Patton (2002, pp. 339-427) which enabled me to explore the experiences and thoughts of specific participants. My approach to these interviews was in the style of Andrew Denton, a well-known Australian interviewer who allows the interview to wander in the direction of the interests of the interviewee. This results in unexpected answers and develops a unique character for each interview.

**Facilitated activities:** My final set of methods were all connected to my role as *facilitator* in the project and link directly to the *action research* nature of my methodology as a whole. These included facilitations of formal activities such as design sessions, workshops, the interdisciplinary collaboration sessions, and the three-day Roundtable. Added to these were the many informal sessions with different combinations of participants. In these cases, those involved in the project came to expect and rely on my intervention in meetings and discussions. This increased during the project as my role became clearer. Finally, I found myself facilitating very informal meetings and discussions between the Core Team members. As the trust developed between us, I was expected to *act* to support their attempts to make sense of what they were encountering and to help them work through the many collisions of collective coherence.

Two final comments on these methods should be offered. First, all my methods included a visual dimension. Since the use of the visual is central to my work, how I think, and how I communicate, it was natural to incorporate it into my research. Second, all my methods relied on the ongoing outputs and outcomes from the A2J2 project. This meant that there was a constant flow between the lower layers of my bricolage model. In many cases this flow was driven by serendipity, which played a significant role in this decision-making activity, becoming an unsuspected factor in my methodology.

## 2.4.2 Ethical considerations and methods

As with all post graduate research at the ANU I completed an ethics program and had my research approved by the appropriate ethics authorities at the university. Consent was sought from everybody that I encountered during my fieldwork. No-



one declined to participate but the nature of that participation ranged in levels of involvement, see section 2.4.1. I also received permission from the Attorney General's Department to use data from my interactions, including emails and documentation. Appendix 4. Includes examples of the participant information sheets and consent forms used during my fieldwork.

The nature of my action research oriented methodology meant that some ethical issues were more pronounced, primarily the issue of identification of participants posed a dilemma. On the one hand understanding who said what when is important to understanding the interactions between participants. On the other hand too much detail could identify or embarrass individual participants.

I dealt with this in two ways. First, I made it clear that participation was voluntary and no individual participant would be identified in the presentation of any findings. Second, I included the use of pseudonyms and the obscuring of Identities throughout the writing of the thesis. Where possible no names are mentioned but many descriptions only make sense if the pseudonyms are consistently noted.

Another factor has helped to obscure identification, time. The field work was carried out in 2013 and the project was shelved by the then government, (as described in chapter 9.) Consequently, the individuals and the project itself has no organisational or public record. Those involved in the project have also all moved on or retired and so the chance of someone identifying an actual person from my thesis has been greatly reduced, beyond just the obscuring of identities.

### **2.4.3 Outcomes and the role of serendipity**

The final layer in the model concerns the research outcomes. These are described in part in each chapter and in detail in the two chapters and interludes of the final movement. This frees up this section for me to discuss a significant factor that emerged: the role of serendipity in the outcomes of my research.

The critical moment described at the start of this chapter highlights the importance of serendipity (de Rond, 2014) throughout my research. I would like to be able to say that I strategically organised to use an appropriate group as my research

subjects, but in reality it came about through a series of seemingly random events, both fortunate and unfortunate.

As I became clearer in what I wanted to research, one client offered her project for my research, but it fell through. This setback occurred within a few days of my discussion with Catherine. So in practice, the crucial choice of research subjects had more to do with making the most of *luck* than with ‘good research practice’ (McCay-Peet & Toms, 2015). While luck is reasonably common for researchers in their practice (Darbellay et al., 2014), it is not advocated in the literature. Yet serendipity played a major role, both in my field work and in the writing up of the thesis. I would also argue it is essential to making the most from multiple areas of expertise. Therefore, I offer a brief review of the relevant literature.

In a comprehensive review of management literature, C. Liu and de Rond (2016) identified *serendipity* as a form of *luck*. The term serendipity is also linked to Louis Pasteur’s dictum “chance favours only the prepared minds” as quoted in (Foster & Ellis, 2014, p. 1015). It has also been described as “a delightful surprise that requires insight” (Florczak, 2015, p. 267). Serendipity is considered a *capability of practical judgment* and *creativity* “of recombining any number of observations that appear to be meaningfully related” (C. Liu & de Rond, 2016, p. 433). This idea has flowed into dealing with wicked problems, where some authors have argued that the mixing of disciplines in transdisciplinary research leads to a form of serendipity that promotes “a clear, reasonably coherent semantic and epistemological dynamic, which consists in tying these approaches to the anchor points offered by disciplines, while at the same time incorporating them into a network of relations” (Darbellay et al., 2014, p. 3).

Thus, a transdisciplinary approach lends itself to a researcher making themselves “cognitively available to confront the unexpected or accidental” (p. 5). This is required in research on wicked problems where the boundaries of disciplines become more permeable (p. 6). Four different forms of serendipity relating to the practice of research have been identified and each is represented throughout this thesis:

1. **Temporal serendipity** – “happening upon a dramatic instance” (Foster & Ellis, 2014, p. 1028). My critical moments, and Chapters 3, 5, and 6 contain examples of this.
2. **Relational serendipity** – “the unplanned building of social networks” (p. 1028). This occurred every step of the project and examples are described in Chapters 1, 6, and 8.
3. **Analytic serendipity** – “discovering concepts or theories that produce compelling claims” (p. 1028). Chapter 3 on ideas provides the clearest example of this.
4. **Uncognitive serendipity** – “not of deliberate rational searching” (Tamboukou, 2015, p. 155). Here a researcher’s use of serendipity is through *prehensions* (p. 153). This is an unconscious process of responding to *feelings*, where researchers are *drawn* to “new lines of thought and possibilities” (p. 155).

This final form takes serendipity into the area of the *tacit* which is discussed in Interlude: Speaking About the Tacit. It also brings in other ways of understanding and this is discussed in Chapter 8: A Symphony of Worlds. Finally, serendipity is amplified through collaboration with colleagues from diverse backgrounds (Darbellay et al., 2014, p. 8) as previously discussed. So it is impossible for me to describe my research methodology without the concept of serendipity. This also links back to my overall position as a bricoleur. My use of serendipity is similar to how a jazz musician accepts and adopts the new musical information created by colleagues. A bricoleur uses and depends on serendipity.

## 2.5 Conclusion

As mentioned earlier in this chapter, to investigate the problem of collisions of conceptual worlds in multidisciplinary teams required immersing myself into the work and lives of the team. The research methodology that I have outlined above was shaped to draw the most out of this situation. It is multilayered, iterative, qualitative, and transdisciplinary. In line with this I have chosen to use an overarching bricolage methodology with a strategy defined as *catalytic facilitation of collaborative action research*. The purpose of this is to identify points of intervention that can be used to leverage and create *adaptive moves*: a form of *tackling*, not solving, a problem. Supporting this methodology is my action research wave with its five stages of exploration, analysis, design, action, and intervention.

There are multiple specific methods for collecting data in this thesis, including self-reflection, informal interactions, formal research activities, and many forms of facilitation. This mix makes the most of serendipity and an openness to respond to my colleagues as they make sense of the collisions they are experiencing.

At the level of each chapter I utilise a weaving metaphor to combine the lived experience of participants (weft), with multiple theoretical frameworks (warp). The subjective mess of entangled collisions has been teased out into distinguishable groups, one to a chapter. Using the related literature, each chapter and interlude operates with its own research theory, creating a synoptic layering of insights rather than a synthesis. I am aware that this makes for a complex research approach but it is appropriate given such a multifaceted research topic. Finally, my methodology is strongly linked to my concepts of collective and transcoherence, and the following interlude continues my development of the concept of collective coherence, and in particular, responses to incoherence.



## Interlude: Listening to Dissonance

### *Introduction*

I have titled this interlude Listening to Dissonance because I draw on theories that support a belief that dissonance/incoherence must be addressed in order for a person or group to develop what I have called *transcoherence*. In the previous interlude I made the claim that coherence is a human drive and that this drive extends to groups, creating a cognitive and social need for collective coherence in multiple domains (Lakoff & Johnson, 2003; Letiche et al., 2012). Furthermore, humans utilise collective coherence as a lens that enables us to make sense of *reality*, providing us with a structure to evaluate, make decisions and take action (Lave & Wenger, 2002).

So what happens when our coherence is threatened? In this interlude I explore the motivational nature of *incoherence*. If humans prefer coherence, it follows that incoherence will be disruptive and trigger the drive for us to resolve the discomfort and bring back ‘coherence’ as described in the previous interlude. One author termed this incoherence-driven learning (Thagard, 2002, p. 67). Others (Letiche et al., 2012) have described some of the motivationally uncomfortable consequences of incoherence:

When our perception of coherence is shattered, the world no longer seems to hold together. Things do not make sense ... We react to our loss of assurance with a loss of self-confidence, and we pull back to whatever coherence we can find. Some will bury themselves in the certainties of their work. Others will find coherence in family and others in community (pp. 4, 19).

The lived experience undergirding this thesis was replete with examples of this, with the participants usually labeling perceived incoherence, along with the feelings associated with it, as ‘dissonance’. Originally a musical term meaning an unpleasant, harsh, inharmonious or discordant sound (Thomas, 2012), dissonance is contrasted with sounds that are consonant: harmonious, pleasant, coherent or stable (Johnson-Laird, Kang, & Leong, 2012). Dissonant chords usually create a desire for ‘resolution’ in the listener, whereby “the dissonant chord is resolved in an expected fashion”

(Arthurs & Timmers, 2016, p. 12). Dissonance and consonance have also been noted in the domains of dance and visual music, where harmony relates to sound, motion and colour (Alves, 2012).

In creating the term ‘cognitive dissonance’, Festinger (1957) broadened the concept to include the domains of cognition and emotion. The impact of this has been so great that it has been described as changing the very meaning of the word: “No longer do educated people immediately think of music when the word dissonance is mentioned” (Mills, 1999, p. 26).

Festinger’s meaning was reflected in the colloquial use of the term by the research participants, their reactions being similar those described in the literature. Yet the literature goes further and offers a complex set of overlapping theories to explain human responses to incoherence.

Table 4 lists theories relevant to incoherence. All make an appearance more than once in this thesis, but a few dominate in specific chapters. Kuhn’s concept of anomalies will be defined and addressed in Chapter 5, while Argyris’ and Bateson’s concepts will be discussed in Chapter 6. The rest of this interlude draws on these theories to create a model for developing transcoherence through listening to / learning from dissonance.

**Table 4. Theories and key concepts related to incoherence**

Discipline	Author	Key Concepts
Medical sociology	(Antonovsky, 1979)	Sense of coherence
Developmental psychology	(Piaget, 1972)	Equilibrium, disequilibrium, assimilation and accommodation
Social psychology	(Festinger, 1957, 1962; Festinger et al., 1964)	Consonance, dissonance
Disciplinary education & development	(Land, Cousin, Meyer, & Davies, 2005; Land, Meyer, & Smith, 2008; J. H. F. Meyer & Land, 2003, 2005, 2006; J. H. F. Meyer, Land, & Baillie, 2010)	Equilibrium, troublesome knowledge
Philosophy of science	(Kuhn, 1962, 1990)	Anomalies, normal and revolutionary science
Organisational change	(Argyris, 1977; Argyris & Schön, 1995)	Mode 1 thinking, single and double loop learning
Anthropology/Cybernetics	(Bateson, 1972)	Levels of learning

## ***A triple loop model of response to incoherence***

The illustration shown in Core Visual Heuristic E.1 acts as a *heuristic* for use throughout the thesis (the complete version can be found in Appendix 1). It builds on the *Action Research Wave* introduced in Chapter 2, but in this case I have bent the wave into a circle. The triple loop shape<sup>26</sup> of the model illustrates the multiple ways in which people respond to and manage incoherence. In each case, a loop of steps starts from and returns to ‘coherence in equilibrium’, the state of rest in the system.

This is a state rather than a step, lasting until an incoherence is detected, that is, something that threatens the coherence and triggers a sense of unease and a need to resolve it. This may occur tacitly and/or explicitly. The incoherence will then be evaluated against the structure of the coherence in use. The strength of the reaction to the incoherence will depend on the structure of the coherence and the level of disruption the incoherence creates.

### **Incoherence denied**

The small arc that leads off the model terminates in *incoherence denied*, and this represents how an individual or group may refuse to enter into the troublesomeness of dealing with incoherence. If a person or group are functioning in a stable coherent view of reality, and they consider their coherence to be the best possible explanation of reality, then a strong option is to deny the existence of the perceived incoherence. There are many possible ways of achieving this. Experimental results can be ignored or explained away, management errors can be hidden from superiors, and unacceptable behaviours can be excused or rationalised. Whichever dynamic method is used, the result is that the various parts of the collective coherence can be allowed to resettle back into the more acceptable form it had before the disruption.

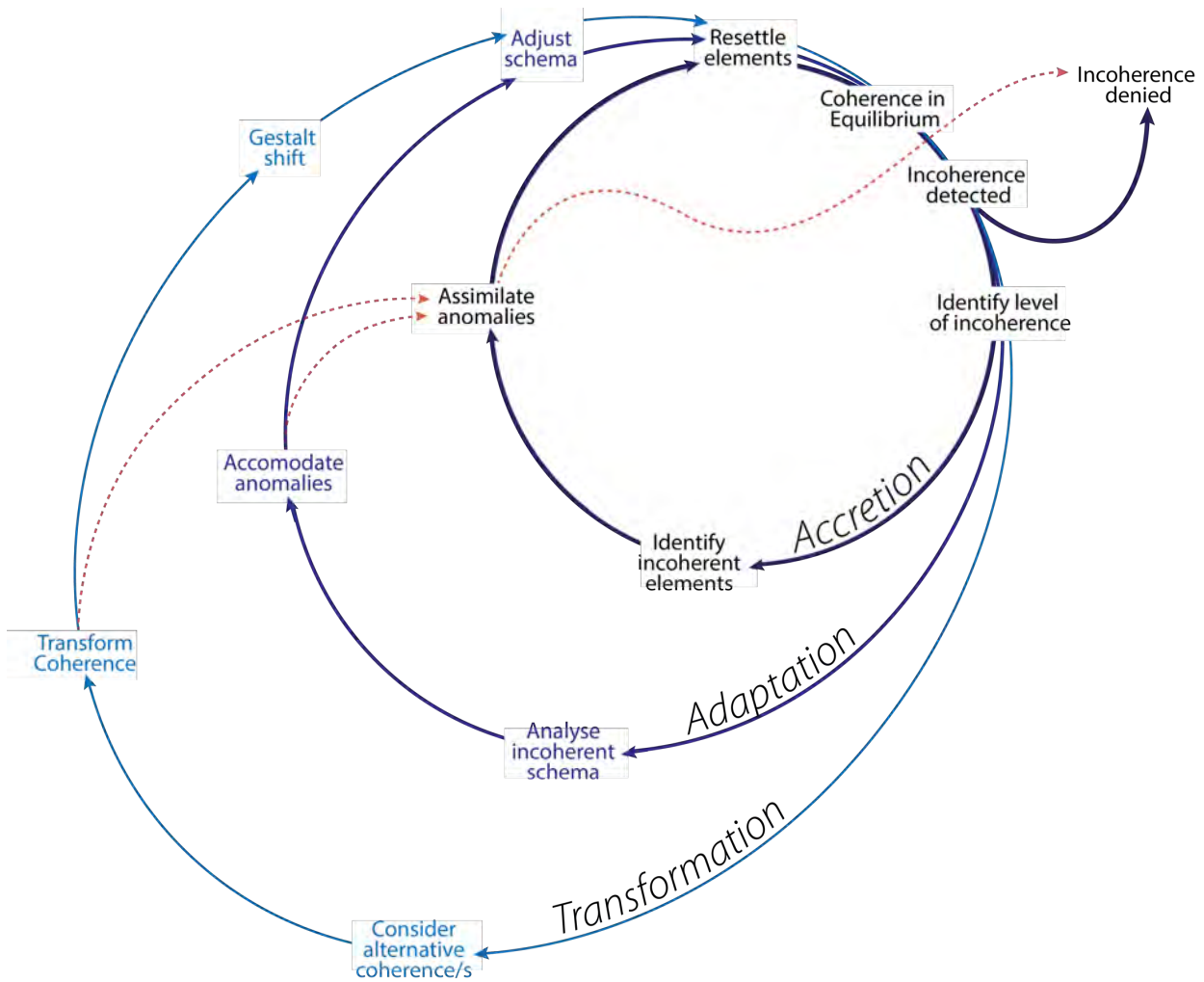
This is not the only possible response to incoherence and is dependent on a deep “commitment” (Timmermans, 2010, p. 9) to a singular collective coherence that is perceived as a fundamental normality. For Kuhn (1962), this normality will only be questioned when sufficient anomalies accrue that cannot be explained by the current paradigm and a new explanatory framework is provided that can explain

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<sup>26</sup> This heuristic also reflects influences on my understanding of how to deal with problems. In particular double loop learning (Argyris, 1977) and triple loop learning (Flood & Romm, 1996; Georges, Romme, & van Witteloostuijn, 1999).

them. If the incoherence is not denied, then, in this model, there are three main ways it may be dealt with.

### Core Visual Heuristic E.1. *Triple loop learning in response to incoherence*



### Explore incoherence

After an incoherence is detected, a triage point is reached (at 'Identify level of coherence'), where movement (learning and change), can be directed along one or more of the three loops. This equates to the exploration phase of the research wave. The loops are not hierarchical but show different possible paths to responding to incoherence. The loops range in thickness, representing the expected usage. Thus, the first loop is thickest as it is likely to be the most utilised.

Each level is qualitatively different, and each subsequent loop (1, 2, 3) involves greater complexity, with more anchor points and relationships. The loops overlap at only four points, which provide a foundation for managing coherence and



responding to incoherence. Each of the concepts listed in Table 4 can be mapped onto this model, although this would probably be contested by adherents of the original ideas. The three loops also deliberately pay homage to ‘Triple Loop Learning’, a further development of Argyris’s (1977) *Double Loop Learning*.

### **Loop 1 – Accretion**

This loop only deals with micro incoherent elements, those specific anomalies that disrupt the stable coherent structure. This is similar to Kuhn’s (1962, 1990) concept of normal science, Argyris’s (1977) single loop learning and Bateson’s (1972) level 1 learning. The more complex incoherences, schema and whole alternative collective coherences, can be rerouted to the other two loops. This frees up the loop to have a positive focus of picking up on specific anomalies and dealing with them constructively. In this loop new information can be assimilated into an existing coherent structure, gradually adding to a group’s body of knowledge.

This also relates to the issue of continuity and discontinuity of change of collective coherences over time (Nowotny, Scott, & Gibbons, 2001). In this loop it is possible to integrate some anomalies into the current coherence if the structure of the anchor points is sufficiently flexible and resilient. It may also be the loop where false alarms are clarified and acknowledged as harmless or where anomalies are recognised as critical and need to be addressed in loops 2 or 3. Another way of putting this is to say that if a person tries to make sense of a problem from within their only frame of reference, they cannot find an answer outside of that frame (Schön & Rein, 1994). Finally, it may not be possible to assimilate anomalies, and thus they are ejected from the system of coherence.

### **Loop 2 – Adaptation**

This second loop deals with meso level incoherence, schema. These are not the grand totalities of worldviews or ideologies but the clumps of concepts that hang together in significant ways (Ghosh & Gilboa, 2014; Mohammed, Klimoski, & Rentsch, 2000). For some, this is the essential level of understanding that recognises the “shift from meta-narrative to micro-discourses” (Nowotny et al., 2001, p. 190).

This is the loop where dissonant schema can be held up for inspection and then accommodated<sup>27</sup> into collective coherences in a way that expands the repertoire of schema that can be drawn on to make sense of novel situations (Klein, 2003, 2013). Accommodation requires more than a resettling of coherent elements, in order for coherence to stabilise into an equilibrium. The schema need to be adjusted, or added to, with minor changes made in relationship and priorities of anchor points. This is why I have labeled this loop 'Adaptation'. It is possible that an attempt at accommodation will fail and anomalous schema will just be treated as individual anomalies. This is shown in the model by the dotted line back to 'Assimilate anomalies', with the potential to be removed as shown by the dotted line to 'Incoherence denied'.

### **Loop 3 – Transformation**

Level 3 is the loop where paradigms, grand narratives, worldviews and ideologies get to play and compete. This level of coherence is complex, with multiple anchor points and many relationships between them. Here, disciplines contest alternative validities, and ontology and epistemology are essential for meaningful discussion. This is where humans try to make sense of the universe in the most complete fashion. This is the loop of Kuhn's (1990) revolutionary science and the triple loop learning of others (Lof, 2010; Medema, Wals, & Adamowski, 2014; Reynolds, 2014; Tosey, Visser, & Saunders, 2011). At this level, alternative coherences need to be made explicit and incoherences 'transformed', that is, a major rearrangement of the structure of coherence. The result will be a gestalt or paradigm shift, resulting in a totally new reconfiguration of anchor points and the relationships between them. As with loop 2, it is possible that accommodation will fail and anomalous coherences will be ditched.

### ***Conclusion***

This interlude further develops the foundational setting of the scene for the thesis. When a collective coherence is disturbed some sense of incoherence results. As stated earlier, the title of this interlude is 'Listening to Dissonance' because all of the

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<sup>27</sup> 'Accommodated' is used here with a technical meaning associated to Piaget's (1972) term.

theories outlined above include a belief that incoherence must be addressed in order for a person to learn and mature. Being unaware of incoherence does not stop a person from reacting tacitly (Healey, Vuori, & Hodgkinson, 2015) to the concomitant unpleasant feelings, and may instead lead to unproductive ways of reducing the sense of incoherence (Festinger, 1957). These denials of incoherence do not result in learning.

One of the underlying assumptions of this thesis is that it is possible to increase a person's sensitivity to *hearing* the dissonance caused when worlds collide and then develop strategies based on the nature of the dissonance thereby uncovered. The triple loop model outlines some of the potential paths these strategies can take.

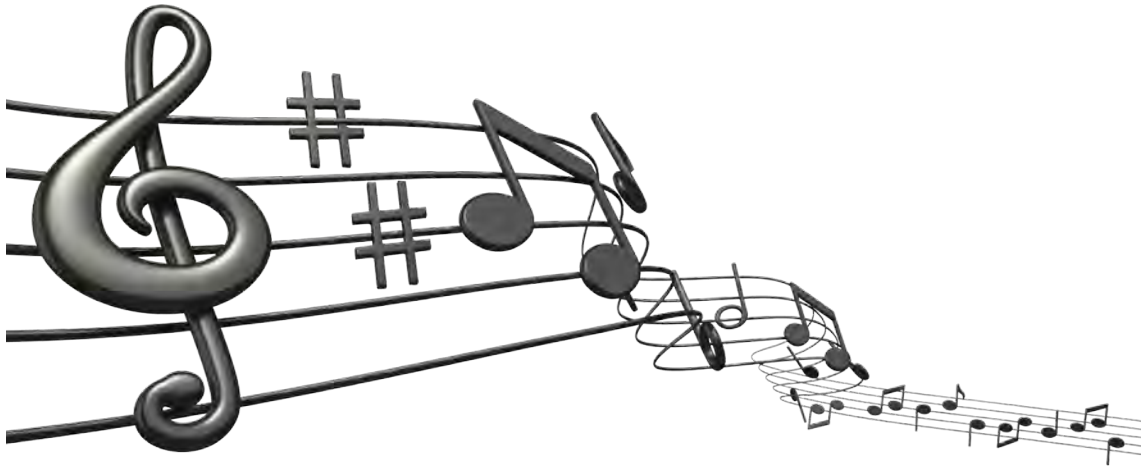
In this interlude I have not attempted to explain in detail the many ways in which listening might be achieved, because the rest of this thesis will draw on and apply the theories outlined here. This interlude has also been an example of developing transcoherence. Group faultlines may result in a sense of incoherence and the fractures will only be healed through the learning and change of moving through one or more of the three loops.

The idea of listening to dissonance provides a necessary foundation for the next chapter and leads directly into how the team dealt with dissonant ideas throughout the project.



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## Movement 2: Collisions of Collective Coherence



**Collisions of collective coherence:** This middle movement is the largest, with five chapters, each of which explores one type of collision. These collisions are over:

- Ideas
- Personality
- Paradigms
- Organisational Culture
- Social fields of influence

Five interludes accompany the chapters, each describing a concept important in managing collisions and building transcoherence.

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## Chapter 3: Nonsensical Ideas

This chapter, the first of the second movement, introduces the first set of example collisions I have identified in the data: micro-level collisions caused by competing *ideas*. This type of collision was in constant play throughout the project, as the participants were faced with a ceaseless barrage of new and different ideas.

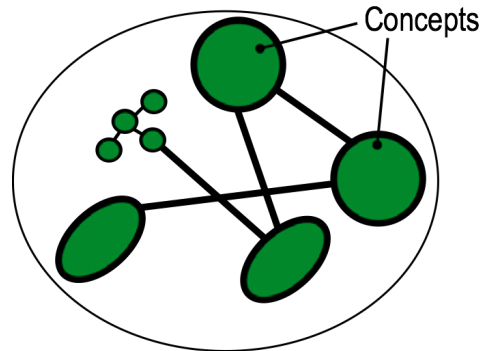
The purpose of the project, described in Chapter 2, was to create a report for the incoming government, and my role was to support and develop the collaborative process in the various teams involved. Both of these include a desired outcome for the use of ideas. The project sought new ideas as part of its content for the report, and I sought to utilise the ongoing interaction between people and new ideas, to produce productive *synergy* rather than unproductive *consensus* or destructive *conflict*.

In practice, this created a number of collisions. New ideas often clashed with the participants' own previous understandings, leading many to see new ideas as *nonsense* (Janice W. Anderson, 2009). The differences between the expected *normal* use of ideas and the actual lived experience created various forms of dissonance, which disrupted the collaborative interaction of the teams. How people responded to this makes up a large part of this chapter, and is built on the foundation of the previous section, the Interlude, 'Listening to Dissonance'.

The label *idea* is vague (Delbridge, 2005) and has been applied to conceptual constructions from the micro through to the macro (Rohmann, 2002). I am using the term in this chapter as an umbrella concept (Hirsch & Levin, 1999) referring to micro-level coherent structures that include *cognitions* (Healey et al., 2015; Hodgkinson, Bown, Maule, Glaister, & Pearman, 1999; Laukkanen, 1994), *metaphors* (Crawford, 2014; Dorst & Pasma, 2010; Lakoff & Johnson, 2003), *analogies* (Lizardo & Pirkey, 2014; Vendetti, Wu, Rowshanshad, Knowlton, & Holyoak, 2014), *models* (Morra & Borella, 2015), *mental models* (Capelo & Dias, 2009; Johnson-Laird, 2012; Senge, 1990), *schemas* (Ghosh & Gilboa, 2014; Klein & Wright, 2016; Piaget, 1972; Recker, 1999), *mental representations* (Casasanto, 2014; Spackman & Yanchar, 2014; Zhang & Soergel, 2014), and *knowledge structures* (Healey et al., 2015; Lourenço, 2012).

All of these terms consider an idea as a *collection of concepts linked in a particular pattern*, which can be represented diagrammatically (Figure 14). The circle around the pattern is the boundary for the idea. A visual representation allows me build on this model throughout the chapter.

**Figure 14. Ideas defined as micro-level coherent structures**



These structures are smaller than meso-level *paradigms* (Kuhn, 1962) or macro-level *worldviews* (Hiebert, 2008; Marshall, Griffioen, & Mouw, 1989; Sire, 2004; Underhill, 2009) and act as building blocks of knowledge. This aligns well with the works of Piaget (1972) - *schemata*, Festinger (1957, 1962) - *cognition pairs*, and J. H. F. Meyer and Land (2003) - *threshold concepts*.

To introduce this chapter, I have selected two critical moments that illustrate the diversity of collisions of ideas. The choice has been based on the following criteria;

- Ideas that resulted in clear collisions
- Collisions that reflect two or more collective coherences
- A different type of idea for each critical moment, to demonstrate the range of collisions
- Moments with a significant amount of detail

Finally, I also refer to some of the critical moments from other chapters. Although these are written about elsewhere, the warp in this chapter will give me a different lens through which to analyse them.



### ***3.1 Critical moments linked to idea collisions***

These two critical moments relate to the core focus of the A2J2 project: **wicked problems** and **reconceptualising access to justice for all Australians**. I have already written about these in Chapters 1 and 2.

#### **3.1.1 Wicked problems**

In Chapter 2, I set out the story of my initial meeting with Catherine when we discussed the possibility of her having a wicked problem. This chapter assumes that the ideas discussed here are understood in that context: of policy exploration related to wicked problems. This is significant because this was often forgotten by those involved in the project.

#### **3.1.2 Reconceptualising access to justice for all Australians**

I have given a description of this idea in Chapter 1, but a short comment is worth adding here. As the Australian federal election in 2013 drew near, the project team had to do the traditional preparation for the possibility of either side of politics getting into power. Here is a snippet from a conversation at one of the meetings from that time:

On the Liberal side Brandis is likely to be the new Attorney General and he has previously made clear that his idea of justice relates only to the court system. (unnamed Core Team member from my notes)

I took note of this because it suddenly struck me how contradictory were the positions around this idea: a collision of definition. Those on the project team had come to see access to justice as a very broad and multilayered concept of which the court system was just a small part.

#### **3.1.3 Design and innovation**

Early in the project, in discussion with Catherine and Amber, I tried to raise the idea of *user-based design*. Initially the idea was rejected out of hand, a possible example

of someone unable to either assimilate or accommodate a new idea. This is how I described it in my notes at the time:

As I spoke, using terms that I thought were common, I could hear Amber gently saying, “wank, wank, wank”. When I asked why, she responded, “Those words don't mean anything!” To her they were just meaningless management consulting terms. Since I couldn't think of alternative words to use, and as Catherine showed no interest in what I had been talking about, I let the topic drop.

... but a few months later it was enthusiastically adopted:

Catherine came back from a meeting where a senior and experienced public servant had given a talk on user-based design as an approach for developing policy. Bubbling with excitement, she filled me in on all the details, which encompassed most of what I had attempted to raise in an earlier discussion. I mentioned that I was familiar with the ideas and she turned to me and asked, “Why haven't you ever mentioned it to me before?”

This left me perplexed. How could she not remember? Why did she dismiss the idea when I introduced it, but adopt it later after an introduction from someone else? For me, this didn't add up. It was an example of the self-contradictory change in attitudes towards ideas that occurred numerous times throughout the project.

A second incident from midway through the project demonstrates the development of Catherine's understanding of ideas like design. She had become so familiar with a host of new ideas, that she assumed everyone we met knew them as well. Consequently, her comments often led to a look of confusion on the face of the person with whom we were talking. The following is a snippet from an email I sent her the day after a meeting with a senior member of the APSC.

You [Catherine] now seem to know more than many of the stakeholders we are speaking with.

Most individuals and groups we have met have links to one dominant concept or way of thinking e.g. Wicked problems, KAFKA, design thinking, Systems thinking, Innovation, collective decision making and adaptive leadership. In most cases they know more than you in their given area and

the flow of information has been from them to you on the general theory and from you to them on the A2J2 project and its relevance. Today was different, he was quite unaware of things that you now take for granted. This creates a new dynamic that was particularly difficult to manage on the phone. We can no longer assume people will know what you are talking about even when they are quite knowledgeable in one relevant area.

This critical moment is a good example of the need for people to have common threshold concepts in order to successfully communicate. The collision is between the repertoires of ideas held by individuals as members of different technical groups. Some people on the project team, such as Catherine, embraced numerous threshold concepts and dramatically expanded their collection of ideas. With these stories in mind, I will now describe in more detail how the participants perceived and dealt with these collisions of ideas.

### ***3.2 The weft - the world according to the participants***

The lived experience of encountering and managing ideas in the project was rich and multifaceted. People and ideas tended to collide multiple times, in different contexts, throughout the project. The nature of the collisions with ideas was varied and changed over time.

Of the many conflicts over ideas, some can be seen as just disagreements on specifics rather than collisions of collective coherence. Therefore, although those disagreements were frequent and often important, they fall outside the scope of this thesis. Even with tussles over specific disagreements removed there are still many instances of collisions of ideas belonging to one group in the project struggling to find acceptance within another group.

To help support the exploration of the large number of collisions, this weft will be slightly different to the others in this thesis. The experiences described in the weft in each chapter will normally be synthesised to create a pattern of findings that can then be further explained by the theory in the warp of that chapter. In this chapter I will also rely on the various theories of incoherence described in the previous interlude, 'Listening to Dissonance'. In particular I will utilise the model of 'Triple loop learning in response to incoherence' (Core Visual Heuristic E.1).

### 3.2.1 Collisions over reconceptualising ideas

Collisions of ideas in the project was often about ideas themselves. The purpose of the project was to reconceptualise an idea: access to justice for all Australians. This was considered by the Core Team as a wicked problem and therefore logically led to an approach to ideas where all those involved

should be garnering different perspectives, new ideas, get some totally different perspectives on the problem or whatever we define the problem as or set of problems or system or whatever ... A willingness to support thinking differently from all levels of the organisation (Jeffery – Working Group).

Yet this view, supportive of creative, divergent thinking, was on a collision course with the culture of the Department, since the Attorney General's Department was known to struggle with innovative thinking. This was recognised by all those involved and summed up well by the same interviewee:

One thing that I think we're not good at is ideas, and there's - and I would hope through this process we can generate some ideas - and there's lots of reasons we're not good at ideas. Number one is a creative reason. If you enter a kind of creative organisation where they create a lot of ideas, they actually have a high tolerance for bad ideas and a process by which you sift through many bad or unworkable ideas to get a few viable ones (Jeffery – Working Group).

These conflicting attitudes to ideas dogged the project continuously. Although there was general agreement that wicked problems needed to be treated differently and innovatively, in practice participants depended on their usual approach to dealing with problems and ideas. This fits with what happens if the liminal nature of a threshold concept has not been understood by those involved (Land, Rattray, & Vivian, 2014) as will be discussed later in the warp.

Those few who actively sought a more creative way to engage with new ideas tended to have a personality type that predisposed them to divergent thinking. This brought them into conflict with those who didn't. The personality conflict aspect of these collisions is addressed in Chapter 4.

### 3.2.2 Collisions of divergent and convergent thinking

The general orientation of individuals to new ideas divided into two main groups. A minority, including Catherine, enjoyed the opportunity for divergent thinking and creating new ideas. For them, “the more ideas the better, then we will cut back later”. In contrast, the majority of the team wanted a convergent approach, saying things like, “Can we just focus on the core issues?” Some of the convergent types wanted to pick only one or two new ideas and package them for the government.

There’s a gap in the hedge you can shoot your idea through because it’s something you’ve developed robustly and can be married into a package and will address particular concerns (Percy – Deputy Secretary)

Along with a dichotomist, convergent/divergent thinking collision was another, more complex set of collisions over ideas, that of competing metaphors.

### 3.2.3 Metaphoric collisions

In my interviews, the term *idea* is used by participants more than one thousand times, usually in a metaphoric manner, and often anthropomorphising the ideas themselves. In the following two paragraphs all the words in *italics* are from the transcripts.

The language used by participants often treated *ideas* as objects: we do things *with* and *to* ideas. But ideas also have characteristics and behaviours. Sometimes we treat ideas as ***passive things*** that can be *shelved, bounced, tossed, linked, shot through a gap, taken on board, picked up and run with, sold, bought, taken away and got back*. They are also presented as physical and malleable, so that we can *combine, integrate, develop, filter out, float, extract, and imbibe*. As objects they could be owned and belong to someone: *his, hers, theirs, ours, mine and yours*.

On other occasions ideas were treated almost like ***active beings***, by *employing, investing, engaging, embracing, resisting, challenging, championing, avoiding, liking, capturing, dismissing, and leaving them to die*. Ideas could be *free, firm, vague, clear, new, old, unpalatable, easily digested, unifying, divisive, refreshing, stale, concrete, airy fairy, and unworkable*. In particular, ideas were often said to have

- **Morality:** *good, bad, terrible, wonderful, reasonable, sensible.*
- **Intelligence:** *brilliant, bright, stupid, innovative.*

Metaphors were often contradictory, and a few, both passive and active, became emblematic of certain attitudes towards the ideas needed for the project report. The first of these nicely represents a traditional view of research.

I guess most of the low-hanging fruit has already been picked and what we're looking at now is a lot more complex and more difficult than that and more nuanced as well (Abbey – Core team).



In this quote ideas are passive and attractive fruit, some of which are easy to pick while others will be more difficult to get hold of. Consequently, the role of the researcher is to grab hold of the ideas and package them up.

In contrast, the following quote from towards the end of the project gives clear agency to ideas.

I think ideas have power, they take strange trajectories and that's why I said to you that I think a 'think tank' is a good idea and I think words and ideas do have power and they take strange paths (Dolores – Core team).



As the project progressed, ideas were seen as more and more lifelike, and most of the active and anthropomorphic metaphors come from the latter half of the project. I have represented this view above with the icon of a bull, and will tie this in more fully later in the chapter. Finally, probably the most poignant metaphor comes from my final interview, where Bruce described what had happened to the final report after I had left the project.

The project was left to die. It just felt like we did a lot of work on a report that's still sitting in my cupboard. (Bruce – Core team)

Here the project has become a fully living being and therefore can be neglected and is able to die. This metaphor will be revisited in Chapter 9. Along with metaphoric

collisions were clashes of ideas strongly linked to particular organisational cultures. Innovation versus 'business as usual' is a clear example of this.

### **3.2.4 Innovation versus business as usual**

The early part of the project was characterised by competing ideas for what constituted a proper policy research project. This was mainly a collision between an innovative approach to the project versus 'business as usual' (BAU). In using the term BAU, in contrast with innovation, I am referring to the traditional thinking and approaches that are applied to policy projects; that which is considered normal project membership, management and activity.

In my experience, BAU is a common phrase in the federal public service that encompasses a number of overlapping ideas. In planning, it is used to denote ongoing, core work activities that are usually not discretionary. It can also be used metaphorically in a somewhat disparaging fashion by saying that some negative or 'stupid' decision by 'management' is 'business as usual'. All of these usages appeared in the setting up of the project and these multiple meanings, juxtaposed with the idea of innovation, created a significant sense of incoherence for many, both between contradictions of belief, and between belief and action.

#### **Project membership and management**

An example of this can be found in what people expected should occur for the project's management and membership. Catherine was very clear at the outset that this would be 'an ideas project' and that the participants would all need to have a 'willingness to support thinking differently'. For her, this meant that the team would be 'transdisciplinary', something that was constantly discussed and renegotiated throughout the project. A sense of incoherence was triggered in Catherine and me during meetings with people to discuss membership. We were often left shaking our heads afterwards, unable to make sense of these people's seeming self-contradiction. On the one hand they espoused agreement with our innovative approach, but then they would advocate a BAU approach to setting up the project, including using standard templates for project management.

Others proposed that innovation should only come after ‘proper project management’ and placing the ‘right’ sort of people in the team. We had wrongly thought the implications of a transdisciplinary approach were obvious to all, and that consequently an unusual project membership and structure would logically flow on from this. Thus, team membership became one of the first ideas to create collisions. Specifically, Catherine was concerned that the Core Team should contain only innovative, flexible thinkers, who were able to interact with people outside of the Department. Unfortunately, it was difficult to get hold of this type of person within the Department. Our requirements meant that the Core Team ended up attracting young, high-flying, and ambitious public servants, with mixed degrees in law and the social sciences.

At the same time a ‘Working group’ was set up for governance. Although this took a standard structure, the membership did not. Angelique, Catherine and myself sought senior executives with a track record of innovative thinking, and representing a broad cross-section of the Department<sup>28</sup>. We encountered a similar collision between innovation and BAU when trying build a membership for an interdepartmental group. Catherine’s initial approach was to send an outline of the proposed project to each department. In almost every case the departmental lawyer or legal team were recommended. We laughed at the predictability of this, and then considered what we could do to get past this entrenched idea that only lawyers could be involved in thinking about justice.

I now turn to the second of the two emblematic metaphors introduced earlier. In analysing the data from this period of the project, the image that came to mind was the running of the bulls at Pamplona<sup>29</sup>. In this metaphor the ideas are the bulls, and our attempts to encourage divergent thinking, find and harness new ideas, and manage the whole process, is the ordered chaos of the running of the bulls through the streets of the town.

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<sup>28</sup> Please see Chapter 2 on the make-up of the project membership.

<sup>29</sup> “The fiestas of San Fermin are celebrated in Irunea/Pamplona, in the region of Navarra, every year from the 6th to the 14th of July. They have become internationally known because of the running of the bulls, where the bulls are lead [sic] through the streets of the old quarter as far as the bull ring by runners”. <http://www.bullrunpamplona.com>



Who we met often depended on *luck* or a *chance* comment from someone in the network, and we used this *serendipity* to plow headlong into the run. It was a convoluted, out-of-control, but exciting and satisfying approach that brought us into contact with individuals who would become crucial members of the project. Ideas often linked these people together, and running with those ideas led us to even more relevant people and further ideas.

While Catherine and I were enjoying our success, others in the team were suffering from a sense of incoherence because of our behaviour. Our approach was seen as risky by some, and frowned on by a number of the Core Team members who wondered why we were wasting so much time constantly having coffee with random people. For them this was not how a project was run.

So the data holds numerous examples of collisions of collective coherence over *ideas*. To help explain this lived experience I turn to theories of sensemaking in the next section, the warp.

### ***3.3 The warp – ideas and sensemaking***

The warp in each chapter is where I use a particular theory to act as an explanatory lens on the lived experience described in the weft. This chapter is a little different, as the weft has already relied on theories of incoherence I presented in the previous interlude. Quite reasonably, those theories focus on attempts to grapple with a disruption to a person's understanding of the world. This aligns with the descriptions of the feeling of incoherence that individuals experienced, and has therefore been useful for explaining the immediate nature and reasons for many of the collisions of different ideas.

However, this is insufficient for explaining what occurred and why, as ideas in the lived experiences of the participants were situated in complex social contexts and in fast-changing activities. Further, collisions were highly dynamic and embedded within a host of broader, interconnected elements of coherence. In particular, *ideas* in the project related to more than just the cognitive domain of individuals. They were also clearly linked to the affective, social, political, and organisational domains.

Therefore, in this warp I introduce an additional theoretical lens that places micro-coherent *ideas* within a meso-coherent structure of *sensemaking*.

### 3.3.1 Sensemaking theories

Of the many theoretical frameworks I considered for the warp in this chapter<sup>30</sup>, the literature on various forms of *sensemaking*<sup>31</sup> conforms best to the criteria for a relevant explanatory lens that I set out in Chapter 1. Sensemaking has been described as “the process through which people work to understand issues or events that are novel, ambiguous, confusing, or in some other way violate expectations” (Maitlis & Christianson, 2014, p. 58).

This certainly describes many of the experiences of the participants, and is a useful starting point. However, the literature on sensemaking does not have a single recognised seminal author. Instead, there is a loose collection of writing from a similar ‘perspective’ (K. E. Weick, 1995, p. ix) or ‘sensemaking lens’ (Stensaker & Falkenberg, 2007). Thus, any definition by one author may be contested by others. This diversity of thought reflects the range of disciplines and settings to which sensemaking has been applied, including systems engineering (Dervin, 1983), crisis management and risk (Maitlis & Sonenshein, 2010), health care (Hultin & Ma hring, 2016), communication (Keyton, Beck, & Asbury, 2010), and education (Jappinen, 2014). In addition, sensemaking has been considered to occur at different levels; for example, individual, collective and organisational (Pekkola, Hildén, & Rämö, 2015). The range of views is also shown by Zhang and Soergel (2014) who identify over twenty differing visual models representing sensemaking.

Out of this large collection, a subset of the sensemaking literature is directly relevant to this chapter, and that is “research on collective sensemaking as it is carried out by multiple actors in organizations” (Maitlis & Christianson, 2014, p. 59). This is particularly so as it has been applied to organisational change, innovation, and

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<sup>30</sup> These included at least some theories of conflict resolution (Halperin, Gross, & Dweck, 2014; Ramsbotham, Woodhouse, & Miall, 2012), frames (Chong & Druckman, 2007; Cornelissen & Werner, 2014), systems thinking (Senge, Kleiner, Roberts, Ross, & Smith, 1994), double loop learning (Argyris, 2002), and multiple intelligences for changing minds (H. Gardner, 1999, 2000, 2004)

<sup>31</sup> This term can appear as any of the following: ‘sense making’, ‘sense-making’, and ‘sensemaking’. See the following for recent reviews of the relevant literature (Holt & Cornelissen, 2013; Maitlis & Christianson, 2014; Sandberg & Tsoukas, 2015).

creativity (Colville, Hennesstad, & Thoner, 2014). From this perspective, sensemaking has been defined as going “beyond interpretation and involves the active authoring of events and frameworks for understanding, as people play a role in constructing the very situations they attempt to comprehend” (Maitlis & Christianson, 2014, p. 58).

It occurs when “organizational members encounter moments of ambiguity or uncertainty, they seek to clarify what is going on by extracting and interpreting cues from their environment, using these as the basis for a plausible account that provides order and ‘makes sense’ of what has occurred, and through which they continue to enact the environment.” (p. 58)

This definition aligns with my description of the drive for coherence, along with my triple loop learning model (Core Visual Heuristic E.1), and matches the context of the research project. Going further, within this subset of literature are two dominant perspectives that are congruent with the definition of sensemaking given above and my representation of coherence. Both place *ideas* within a broader situational and theoretical context. These two streams of thought have much in common, but also represent two different ontological positions on a key question: Does sensemaking occur “within or between individuals?” (Maitlis & Christianson, 2014, p. 62) (see Core Visual Heuristic C.4). Together they help to explain the lived experience of the participants, although few authors have attempted to combine them into one model (Ryan, 2013).

#### **Core Visual Heuristic C.4.      *Two ontological positions on sensemaking***



### 3.3.2 Collective sensemaking 1 - cognitive and internal

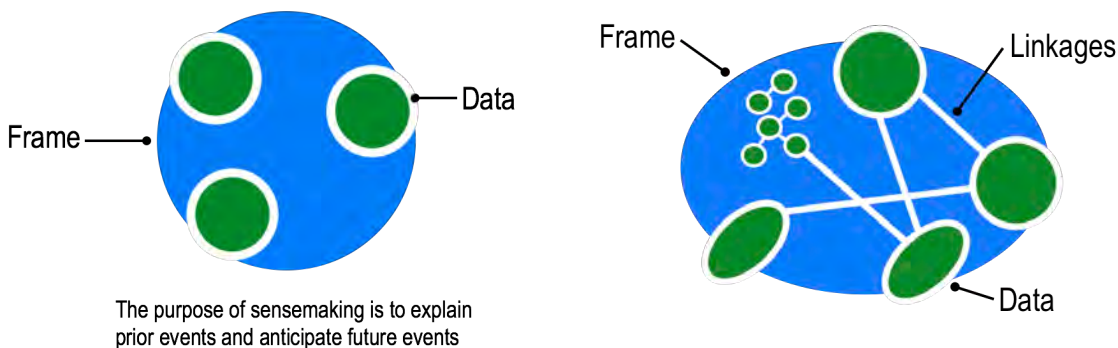
This perspective is primarily psychological (Klein, Moon, & Hoffman, 2006a) and concerned with the cognitive domain. It is seen by some as a function of ‘macrocognition’, defined as the “study of cognitive processes affecting people ... who have to wrestle with difficult dilemmas in complex settings under time pressure and uncertainty” (Klein & Wright, 2016).

Within an organisational setting, this type of sensemaking is seen as part of a ‘situated cognition’ (Chaudet, Peelegrin, & Bonnardel, 2015), where individuals link their current schema to specific organisational settings. This aptly describes the context of the individual project participants.

From this perspective, team sensemaking consists of the “same aspects as in individual sensemaking (i.e. attempting to explain and anticipate events); however, the activities and strategies change at the team level” (Klein, Wiggins, & Dominguez, 2010, p. 317). Collective meaning develops as different ‘frameworks’ (Cornelissen & Werner, 2014; Kaplan, 2008) of ‘schemata’ compete as people advocate their own position, and eventually one viewpoint emerges as dominant (Maitlis & Christianson, 2014, p. 78). This perspective is essentially *dyadic*, consisting of a ‘frame’ encompassing a collection of elements, ‘data’ (Klein & Wright, 2016), as shown in Figure 15.

**Figure 15. Dyadic data/frame model of sensemaking (Klein et al., 2010, p. 308)**

Sensemaking is the process of fitting data into a frame and fitting a frame around the data.



Thus, sensemaking is seen as the result of the various possible interactions between data and frame<sup>32</sup>. “This is a two way street: Frames shape and define the relevant data, and data mandate that frames change in nontrivial ways (Klein, Moon, & Hoffman, 2006b, p. 88). Further, “when people try to make sense of events, they begin with some perspective, viewpoint, or framework—however minimal” (p. 88). These frames may be scripts, diagrams, stories, metaphors, maps, stereotypes or visual images (Entman, 1993).

The data/frame model corresponds, and is visually similar to, my pictorial representation of an ‘idea’ as shown in Figure 14 at the start of this chapter. This was not deliberate as I had developed my visual model in 1997, long before I discovered Klein’s (2005). Still, the similarities are not surprising given the similar approaches we have taken to concepts and ideas.

Frames are also seen as having a series of functions for organisational groups. They are used to “select some aspects of received reality and make them more salient” (Entman, 1993, p. 52). They encompass “reinforcing clusters of facts or judgements” (p. 52). They are used to define problems, diagnose causes, make judgements and suggest solutions (Entman, 1993, p. 52). With wicked problems, stakeholders typically do not share a common frame. Further, as Schön and Rein (1994) have argued, one’s frame determines

what one accepts as a fact and which arguments are taken to be relevant and compelling. Also, the different value sets inherent in different frames leads to a different set of priorities on the same set of facts. Therefore, such disputes are resistant to resolution by appeal to facts alone ... (pp. 4-5)

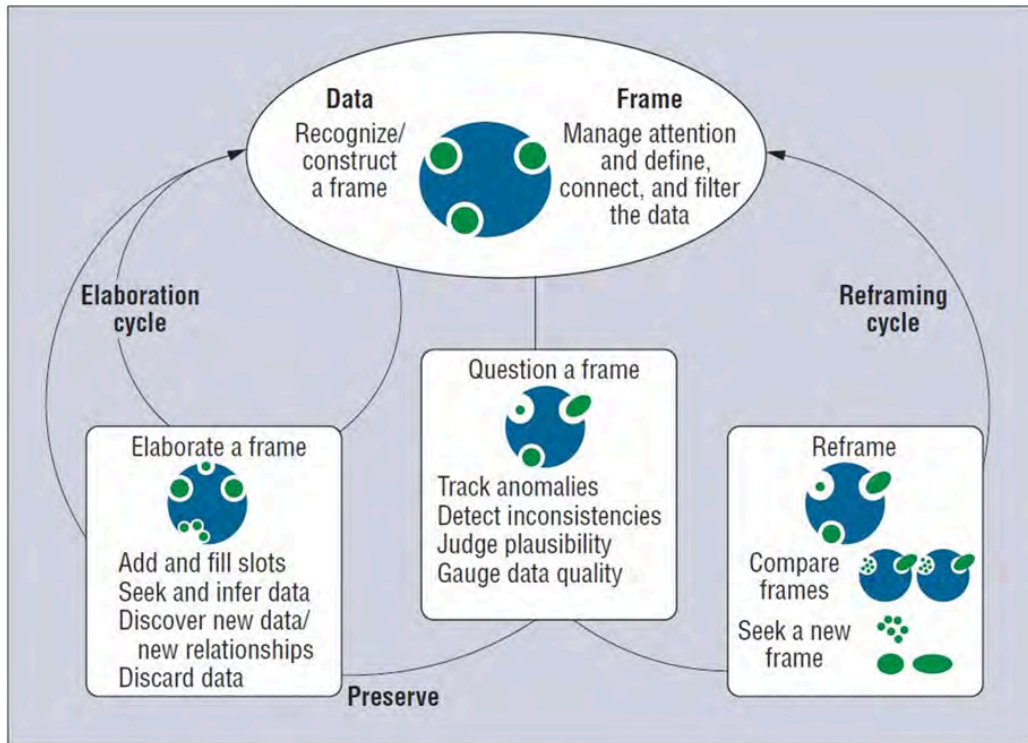
Klein et al. (2006b) utilise their basic data/frame visual model to show the multiple strategies that people have for sensemaking (see Figure 16). With a few caveats, their dyadic model of sensemaking can be mapped onto my triple loop incoherence model (Core Visual Heuristic E.1). Klein et al. (2006b, p. 88) themselves link

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<sup>32</sup> The data/frame model of sensemaking is just one model that utilises the terms ‘frame’, ‘framing’ and ‘framework’, which can be considered ‘umbrella constructs’ (Hirsch & Levin, 1999). With origins in the writings of Bateson (1972), K. Burke (1937) and Goffman (1974), frames are found in the literature across the social sciences and humanities and may be one of the most ‘ubiquitous constructs’ (Cornelissen & Werner, 2014) across multiple traditions. In the field of public policy, Schön and Rein (1994) utilise ‘frames’ to describe “the underlying structures of belief, perception and appreciation” (p. 23).

elaborating and preserving a frame to Piaget’s idea of assimilation (my first loop), while reframing is linked to Piaget’s idea of accommodation (my second loop). In addition, the central lower box, ‘Question a frame’, equates to two steps in my model: ‘Incoherence detected’ and ‘Identify level of coherence’.

**Figure 16.** *The full data/frame model of sensemaking (Klein et al., 2006b, p. 89)*



### Comparing Klein’s Dyadic model and my Triadic model

At this point though, I respectfully diverge from authors like Klein<sup>33</sup> because I consider the data/frame model of sensemaking inadequate. To justify this comment, I turn to Gregory Bateson (1972, pp. 192-198)<sup>34</sup>. Bateson considers ‘frames’ as psychological concepts and describes them analogically through the use of two metaphors:

1. A physical analogy of a ‘picture frame’.
2. A more abstract analogy of a ‘mathematical set’ (p. 192).

<sup>33</sup> I am hesitant to make this claim given the long and significant contribution Klein and his colleagues have made to sensemaking and associated ideas (Klein, 2003, 2005, 2008, 2011, 2013; G. Klein, 2014; Klein, 2015a, 2015b; Klein & Baxter, 2006; Klein & Hoffman, 2012; Klein & Jarosz, 2011; Klein et al., 2006a, 2006b; Klein, Phillips, Rall, & Peluso, 2007; Klein, Rasmussen, Lin, Hoffman, & Case, 2014; Klein & Wright, 2016).

<sup>34</sup> The chapter in Bateson’s (1972, pp. 192-198) work is a reprint of an earlier article from (1942).

The first is the one I want to elaborate on. Linking his metaphor to gestalt theory, Bateson (1972, pp. 194-195) develops a triadic framing model. The picture frame encompasses the 'data' but it also "tells the viewer that he is not to use the same sort of thinking in interpreting the picture that he might use in interpreting the wallpaper outside the frame" (p. 193).

This is a recognition that every frame is used within a specific *context* that sets the 'outer limit' of the frame (p. 193). This correlates to the content in the third loop in my model. In total, then, we have:

1. the 'idea', the inside of the picture,
2. the frame that sets the interpretive boundary for the idea, and
3. the situational context, the wall the frame sits upon, which acts as an outer frame.

Contextual factors cover more than just cognitive and internal factors. As Klein et al. (2010) acknowledge, team sensemaking is influenced by *multiple situational factors*, in particular by the authority structure of the team, such as hierarchical, collaborative or opportunistic (p. 305).

This provides a suitable segue to the second thread in this warp, the ontological focus of sensemaking as social and external.

### **3.3.3 Collective sensemaking 2 - social and external**

The second of the two threads on sensemaking comes from a more sociological or social-psychological position that considers sensemaking as a "social process that occurs between people, as meaning is negotiated, contested, and mutually constructed" (Maitlis & Christianson, 2014, p. 66). Rather than occurring solely within the minds of individuals, sensemaking unfolds "in a social context of other actors" and it is a "process that is ongoing, instrumental, subtle, swift, and easily taken for granted" (K. E. Weick, Sutcliffe, & Obstfeld, 2005, p. 409). The context for this social interaction is usually the organisation, where "members interpret their environment in and through interactions with each other, constructing accounts that allow them to comprehend the world and act collectively" (Gephart, 1993, p. 1485).

The preeminent author for this perspective is Karl Weick<sup>35</sup> and his seminal work is ‘Sensemaking in Organizations’ (1995). As one author put it, “there is more to sensemaking than Karl Weick but it doesn’t make much sense without him” (Colville, Pye, & Brown, 2016, p. 9). Weick’s framework (1995, pp. 17-62) contains seven properties of sensemaking, listed below and followed with a diagrammatic summary.

1. **Grounded in identity construction:** Sensemaking begins with a sense-maker and their own self-reflection. “Who people think they are in their context shapes what they enact and how they interpret events” (World Heritage Encyclopedia, 2016). When “threatened, identity constrains action as individuals and teams lose important anchors about themselves” (Maitlis & Sonenshein, 2010, p. 563).
2. **Retrospective:** Meaning is constructed about past experiences (Maitlis & Sonenshein, 2010, p. 551). “To learn what I think I look back over what I have done” (K. E. Weick, 1995, p. 61).
3. **Enactment:** “The idea that people generate the environment through their actions and through their attempts to make sense of these actions” (Maitlis & Sonenshein, 2010, p. 553). It is “the reciprocal influence between action and the environment during sensemaking” (Maitlis & Christianson, 2014, p. 84).
4. **Social:** Sensemaking is regarded as social because “individuals are embedded in a socio-material context where their thoughts, feelings, and behaviors are influenced by the actual, imagined, or implied presence of others” (K. E. Weick, 1995, p. 39).
5. **Ongoing:** Sensemaking never “starts”. We are always already involved in something, “which we try to disentangle by making, then revising, provisional assumptions” (p. 43).
6. **Focused on and by extracted cues:** a process in which individuals “interpret and explain sets of cues from their environments” (Maitlis, 2005, p. 21). “Enactment in the pursuit of projects provides the frame within which cues are extracted and interpreted” (K. E. Weick, 1995, p. 39).
7. **Driven by plausibility rather than accuracy:** (K. E. Weick, 1995, p. 39). “Sensemaking processes are characterized by a heightened sensitivity to whether new cues are consistent or inconsistent with the emerging account

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<sup>35</sup> The following are just a few of his more notable contributions to the field of sensemaking (K. E. Weick, 1995; K. E. Weick, 2000; K. E. Weick, 2006a, 2006b, 2010a, 2010b, 2011a, 2011b, 2012; K. E. Weick & Sutcliffe, 2001; K. E. Weick et al., 2005)



of a situation, such that accounts are continuously and critically evaluated with respect to their plausibility” (Maitlis, Vogus, & Lawrence, 2013, p. 230).

**Figure 17. Weick’s 7 properties of sensemaking**



As with the internal and cognitive model, this model of sensemaking looks for triggers that begin the process. However, in this case the basis for the trigger is socially- and identity-based:

Unexpected events do not necessarily trigger sensemaking; it occurs when the discrepancy between what one expects and what one experiences is great enough, and important enough, to cause individuals or groups to ask what is going on, and what they should do next.

This experience of a discrepancy, or violation, is subjective, and how significant it feels will be influenced by a variety of factors, including its impact on individual, social, or organizational identity (Corley & Gioia, 2004; Pratt, Rockmann, & Kaufmann, 2006) and personal or strategic goals (Balogun & Johnson, 2004; Maitlis, Vogus, & Lawrence, 2013). Even when discrepant cues significantly disrupt identity or goals, however, they may still not trigger sensemaking if group norms or the organizational culture mitigate against it (Maitlis & Christianson, 2014, p. 70).

The social and external approach to sensemaking acknowledges the affective domain in sensemaking. Emotions are a significant part of sensemaking (K. E. Weick et al., 2005, p. 418). However, there is disagreement in the literature on the specific

meanings of the various relevant terms such as emotions, feelings, mood, and affect (Ashkanasy, 2003), as well as with the actual role of emotions in sensemaking (Elfenbein, 2007).

Taken together, the sensemaking theories outlined above help to explain the collisions of ideas presented in the weft. The next section describes various interventions carried out during the project that come under the heading of sensemaking.

### ***3.4 Weaving the warp and weft - from BAU to sensemaking***

This section in each chapter is where theory and practice are brought together. In this case, that is the disparate views of the participants around their experience of colliding ideas, and the theories of incoherence and sensemaking described previously. The examples discussed here are linked to the groupings of collisions described in the weft.

#### **3.4.1 From passive triggering of incoherence to active sensemaking**

As stated earlier, when people encounter moments of ambiguity or uncertainty, they seek to clarify what is going on by extracting and interpreting cues from their environment. I have labeled this *detecting incoherence*. Of all the points in the models of sensemaking, I consider this to be the most obvious point at which to intervene. I have shown that this sense of incoherence could be brought on by a person, event, or activity. Any level of incoherence is uncomfortable, and drives a person to attempt to resolve the feeling by making sense of the situation. It follows then, that people may be more receptive to considering alternative coherences at moments like this, and a facilitator could make the most of the opportunity of incoherence to support attempts at sensemaking that might lead to transcoherence.

### The Martian stare (a trigger metaphor)

In practice, theories of sensemaking require translation into the situation of those collectively facing moments of incoherence. The literature on facilitation<sup>36</sup> contains many examples of tools and approaches to support this translation and this section briefly describes one approach I have successfully used.

Throughout this chapter, metaphor has been closely linked with ideas, and since the early 1980s I have used a specific metaphor for dealing with collisions of collective coherence (although I had then developed little of the concepts and language used in this thesis). I have always described this metaphor as someone ‘giving me the Martian stare’. The inspiration for the metaphor was from my childhood: ‘Marvin The Martian’, a cartoon nemesis of the better-known Bugs Bunny.

**Figure 18. Marvin The Martian (C. Jones, 1948)**

I originally used the Martian stare as a youth worker<sup>37</sup>, to describe the look a young person would give me when I had just said something that left them staring at me as if I was from another planet. It became a common piece of language for me, responding to the look with, ‘You’re giving me the Martian stare. What did I just say or do?’ This would then usually lead to my understanding their world better, and eventually to their understanding what I had been trying to convey.



Marvin and his stare were just as useful throughout the project, providing a specific metaphor that was used to trigger a more conscious sensemaking process. Presented in introductory presentations, it became a part of the collective repertoire that could be drawn on when someone observed a look of incomprehension associated with a perception that things were incoherent. This was an intervention to support a more active engagement with sensemaking. My responses to other collisions over ideas pick up on one or more of the pathways of sensemaking shown

<sup>36</sup> Refer to Interlude: Reflecting on Catalytic Facilitation

<sup>37</sup> I worked as a youth worker in various capacities from 1980 to 1985.

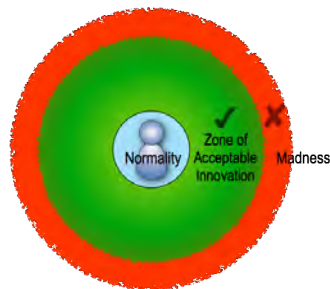
in Klein's model (Figure 16) and my Triple Loop Learning model (Core Visual Heuristic E.1).

### 3.4.2 Reconceptualising ideas - the zone of acceptable innovation

Collisions over specific ideas created a specific form of incoherence for the project participants. People felt a tension between 'normality', 'acceptable creative innovation' and 'sheer madness'. This conflict was particularly confusing when the same idea was evaluated by different people as normal, innovative, or outrageous at the same time.

I had run into this before with other clients, and had developed a simple model called the 'zone of acceptable innovation'<sup>38</sup> (Figure 19) to help people work through this kind of tension. The central circle of the model is what a person considers normality: normal ideas, normal modes of work, or BAU. The green circle, between the inner circle and the red outer circle, is the perceived zone of acceptable innovation (ZAI). The red outer zone is where the person considers only 'insane ideas' or madness to lie.

**Figure 19. *The zone of acceptable innovation (ZAI) (Ashhurst 1997)***



This simple model enabled me to explain to participants why they were experiencing dissonance, and why a single idea, such as 'user-based design', can cause such conflict.

<sup>38</sup> This is my own work but it had its genesis as a sort of love child of Covey's (1996) idea of the circle of influence and circle of concern, and Vygotsky's (1978) concept of the zone of proximal development.

**Figure 20. Comparison of three different ZAIs**

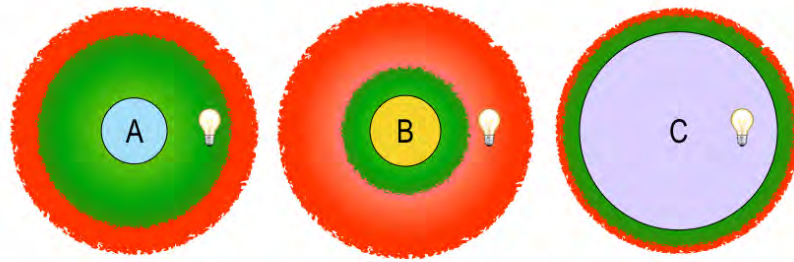


Figure 20 compares three different individuals' ZAIs. The light globe represents the same idea and is in the same relative position in each case. It is assessed differently by each person because of the zone in which it falls. For person A this idea is obviously innovative, while for person B, who has a very narrow ZAI, the idea is madness – beyond innovative into the ridiculous. Finally, person C has a very large sense of what is normal and the same idea is considered business as usual.

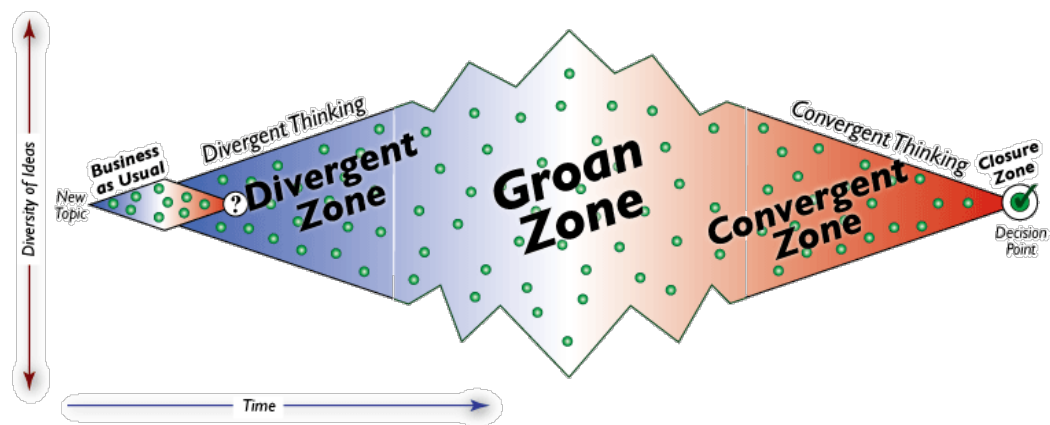
The dissonance results from being unaware of the different ZAIs operating. This was exacerbated by differing collective coherences operating in the project. People from the 'design community' tended to have a ZAI like person C in the model. Innovation and design ideas were 'bread and butter' issues for them and they struggled to relate to many of the public servants who tended to have a ZAI equivalent to person B. This model functioned as a boundary object (Akkerman & Bakker, 2011; Bowker & Star, 2000)<sup>39</sup>, and helped people reframe their response to the data. It can be seen as an example of the reframing cycle from Figure 16.

### 3.4.3 Validating divergent and convergent thinking

I attempted to help the team accommodate both divergent and convergent thinking by introducing another model (Figure 21, adapted from Kaner, Lind, Toldi, Fisk & Berger (1996)), early in the project. Acting as a boundary object, it gave us a common language to discuss differences in attitudes to new ideas.

<sup>39</sup> See also Interlude: Discovering Boundary Objects

Figure 21. *Group decision-making. Adapted from (Kaner et al., 1996)*



There are six key elements in this diagram:

1. **Ideas:** Each green dot represents an idea. The ideas are contained in the changing boundary of acceptable ideas for the project.
2. **The Start:** A new topic begins, as shown on the left of the diagram.
3. **Business as Usual:** The small diamond shape at the left illustrates the tendency to try to quickly and efficiently explore familiar ideas and then close off any discussion with a single obvious solution.
4. **Divergent zone:** Tackling a wicked problem requires the exploration of many ideas and a willingness to address diverse opinions and unusual positions. This is illustrated in the divergent zone by the increasing number of green dots (ideas) in the broadening boundary.
5. **Convergent zone:** The right-hand side of the diagram shows a narrowing of the boundary and a corresponding reduction of the number of ideas. The project is completed when the final decisions are made and the recommendations and/or solutions are offered.
6. **Groan zone:** The central part of the diagram represents the negotiation, often heated, over what ideas are valid, important, useful, or irrelevant. It denotes the lived experience of the struggle participants may have during the project.

The new language enabled people to make sense of the different ways of thinking but the preference of the majority for only one type remained strong. This is summed up in the following interaction from one interview:

- A: I'm quite comfortable with the fact that this project had to go wide. What has made me deeply uncomfortable is that there's never been a stop.
- Q: So it's not the divergence ...

A: No.

Q: It's the lack of convergence?

A: Yes. The lack of convergence [laughs].

Physically, this was reflected in people often using both hands with wrists together and fingers pointed apart to show divergence, and fingertips together and wrists apart to show convergence. In some meetings, a whole table of people could be seen mutely expressing their wishes by putting their fingertips together.

I consider this intervention an example of the elaboration cycle from Figure 16. People did not give up their original thinking, but the incoherence was reduced by adding a legitimate alternative to their understanding or frame. They could now understand why the other person was functioning differently, even if they preferred that they did not think that way.

### 3.4.4 Making sense of group membership

My final example is more closely associated with the social sensemaking of Weick. In the weft I noted the collisions over the idea of what constituted a legitimate 'ideas' project, in particular the disagreement over the desired characteristics of potential members. Over the course of a few months while looking for an appropriate content researcher, we refined a selection approach, and then applied it to the other roles required for the project.

The initial qualities we sought were fairly standard: "qualifications and experience in the field" (Catherine: email Dec 2012). Then we considered the wicked problem angle, and developed further qualities similar to those we demanded for the Core Team. A person should

not be captured by any research institute/national or state perspective, have excellent research and analytical skills to help in the process of working out what has worked overseas and what might work here, ability to work in a team and to be agile and flexible in applying themselves, ability to work within the bureaucracy, ability to take direction. (Catherine: email Dec 2012)

Applying this to the search for members for a wider group of stakeholders, we chose criteria and a process that included a mix of personality, innovative thinking, and serendipity (McCay-Peet & Toms, 2015). Our innovation was to ignore the formal channels and procedures and instead work through informal recommendations of people we respected and who understood what we were trying to do. This approach matches Weick's concepts of identity construction and the importance of the social in sensemaking.

To enact this approach, a one-page description of the project was disseminated widely through a loose network of contacts, in many cases reaching people who were a number of times removed from the original recipient. Catherine's days became filled with phone calls, tips about other potential contacts, and lots of meetings for coffee and chats. In many cases I was invited to join her, and over time we developed a feel for those who 'got it'. This time of *running with the bulls* is a good example of incorporating the last five of Weick's properties of sensemaking (see Section 3.3.3).

Our networking turned up a few key 'nodes' (Engeström, 2005a), individuals who provided many links to other key groups and radical ideas. One of these, whom I shall call Amy, became an important advisor and encouraged our *chaotic* approach. She was a senior executive from another department, with significant experience in interdepartmental collaboration. She and Catherine agreed that interdepartmental committees were universally disliked and often produced poor results. Amy went further, stating that the name itself would drive away the sort of people we most wanted. Therefore, we created a new label, and thus was born the *Interdepartmental Collaboration Group* (IDCG). With Amy's help we introduced two requirements for membership:

1. an ability to think innovatively, and
2. an ability to play nicely with others.

So with a small but significant shift in nomenclature, combined with our informal networking approach and new requirements for selecting members, a group gradually coalesced from our network, and the first IDCG was held in March 2013. This resulted in a highly effective group of executive-level collaborators.



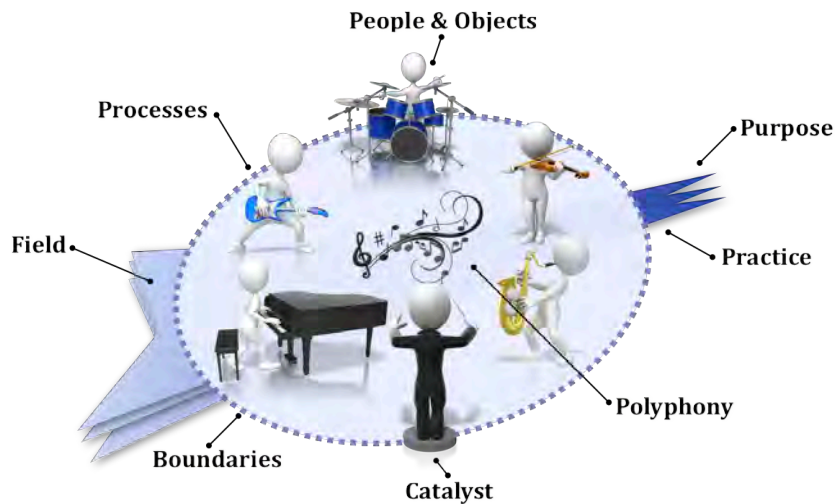
### 3.5 Conclusion

Having set the scene in the first movement, this chapter is the first of the second movement. It has focused on a micro level of collisions around *ideas*, a central feature of the A2J2 project. The critical moments and observations from the weft show dispute over all aspects of the project including the ideas about its content and process. Research participants considered the conception of some ideas nonsensical when promoted by people from other collective coherences. There were also discernable collisions over how ideas should be reconceptualised. The creation of new ideas through divergent thinking clashed with the more traditional convergent thinking of the Department, and there were many metaphoric collisions along faultlines in the group as a whole.

A major faultline opened up between innovation and business as usual that can be seen as an exemplar for collisions over ideas. That is, it was not just ideas themselves but how they feature as anchor points in different coherences. They were also clearly linked to the cognitive, affective, social, political, and organisational domains. Consequently, for this chapter's warp I chose a theoretical lens that placed micro-coherent *ideas* within a meso-coherent structure of *sensemaking*. I drew on two streams from the literature on collective sensemaking: 1) cognitive and internal, and 2) its complement, social and external. Together they helped to clarify why collisions had occurred over ideas.

In the weaving section I revisited the BAU issue and proposed a number of practical ways the literature could be applied to this type of collision to help participants deal with their resultant sense of incoherence. This also develops different aspects of transcoherence through both the reduction of faultlines and the development of synergies. To illustrate the elements of transcoherence, I turn again to my metaphorical visual model of a heterogeneous team. The musical group is here comprised of eight elements. Each supports the capability of the group, but all need to be activated for a fully developed transcoherence capability. Our violinist from my collective coherence model (Core Visual Heuristic B.1) reappears, but must now contend with being the only representative of his collective.

### Core Visual Heuristic C.5. *A musical model of transcoherence*



The importance of a catalyst was demonstrated in my role as facilitator. A number of visual models functioned as boundary objects, supporting the growth of the participants as T-shaped experts. Our introduction of new selection criteria for the teams is an example of how the choice of people can promote a more transcoherent team. This and other strategic actions show that a transcoherent approach is manifested in new or different forms of practice.

Another finding, that people primarily hold their collective coherence tacitly, became a central issue during the project. Consequently, the ability to surface the tacit and speak about the unspoken is a crucial skill, and it makes sense therefore to review the relevant literature in the following interlude, *Speaking About the Tacit*.



## Interlude: Speaking About the Tacit

This interlude is a brief description of the various meanings of the term *tacit* as used in this thesis. I have chosen the term *tacit* for two reasons:

1. All the theoretical frameworks discussed in this thesis utilise the term *tacit* and/or its equivalent, as a significant element.
2. The term itself provides a case study of an example of a collision of different worlds or collective coherences.

As with all the interludes, I am interested in how the theoretical concept, in this case the tacit, can be used to provide practical support for improving interactions across the boundaries of incommensurabilities between different collective coherences, that is, the development of *transcoherence*. How the tacit is conceived affects the approach one takes to improve these interactions. Rather than attempting to unravel the complex history of *tacit* in this interlude, I refer you to others who have written extensively on it (Collins, 2010; Gascoigne & Thornton, 2014; Turner, 2015; Zappavigna, 2013). Instead I touch on key elements of its usage by various authors and disciplines and the implications of that usage for the purposes of this thesis.

At first glance, *tacit* is a clear and straightforward adjective. It enters the English language around 1600, drawing directly from the Latin *tacitus*, with a basic meaning of 1) ‘to be silent’ (Wilton, 2011). Over time this meaning has expanded in popular usage to include 2) ‘unspoken’ and 3) ‘not openly expressed’ (Delbridge, 2005). Yet under this superficial simplicity lies one of the more complicated words in the English language<sup>40</sup>. This is mainly because it has become a key term in a number of different intellectual disciplines (Turner, 2015).

This diversity of related terminology in different disciplines is shown in Table 5. Relevant detailed descriptions of the use of *tacit* in specific collective coherences will be discussed in the related chapters.

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<sup>40</sup> As Raymond Williams (1985) noted of the word ‘culture’ for the same reasons.

**Table 5. The use of Tacit and/or equivalent terms in different disciplines**

<i>Domain</i>	<i>Technical term</i>
<b>Philosophy</b>	Tacit knowledge/knowing Tacit integration Phronesis Knowing how / knowing that Tacit conventions of language, language-games
<b>Sociology of science</b>	Scientific duplication as tacit knowing Paradigm (as tacitly enforced) Science as craft
<b>Social sciences</b>	Tacit knowledge Backgrounding, implicit meaning Habitus, doxa
<b>Psychology</b>	Tacit/Implicit learning Practical intelligence (subset of) Automaticity
<b>Linguistics</b>	Tacit/Implicit meaning Latent grammatical patterning Universal grammar

Adapted from (Zappavigna, 2013, p. 42)

### ***Tacit as unspoken***

Clarifying why the tacit is ‘unspoken’ helps to uncover the different characteristics of the meaning of tacit in the literature. These alternative conceptualisations can be summarised as follows:

**Below-view:** Invisible to some degree, related to the unconscious, subconscious, subliminal, or subsidiary. “Unattended to as we operate in the world, but integral to our performance as social creatures” (Zappavigna, 2013, p. 2).

**Taken for granted:** Similar to the Below-view, this position considers that tacit things are not spoken of because we do not realise we are using them. In a sociological sense it includes “the distinctive but unacknowledged habits of mind or meaning structures” (Turner, 2015, p. 1). Knowledge becomes tacit by being absorbed through socialisation or by becoming embedded through experience and study.

**Ineffable:** Particularly from Polanyi (1958, pp. 87-101; 1966, p. 4), who considered that “since all knowledge either is or is rooted in tacit knowledge ... we can know

more than we can say”. Zappavigna (2013, p. 42) identifies more dichotomised positions that divide this approach into a ‘strong’ position, where tacit knowledge can never be articulated, and a ‘weak’ position, where tacit can be articulated but with difficulty.

**Practice-based knowledge:** The somatic knowing that is linked to crafts and skills. This is a personal knowledge and this characteristic is often linked with ineffability.

**Backgrounded:** Where ideas have become submerged as cultural norms. This ‘backgrounding’ can lead to where “something can be considered too true to warrant discussion” (Douglas, 1975).

**A collection of presuppositions:** Worldviews are considered to be built on the bedrock of presuppositions and since these fundamental assumptions are assumed, they may not be articulated unless challenged (Van Til, 1932). They are, however, able to be ‘surfaced’ upon reflection and in many cases are codified in detailed descriptions of a worldview (Van Til, 2008).

### ***Using the tacit to reduce incommensurability***

The different conceptualisations of why the tacit is unspoken, as described above, lead to alternative approaches to dealing with incommensurability between collective coherences. If incommensurability is pictured as a faultline between collective coherences, then its nature is important for considering the “possibility of transforming—articulating—tacit knowledge into explicit knowledge” (Hakanson, 2007) or in transferring tacit knowledge from one social context to another (Collins, 2010).

In Table 6, each approach has been linked to the tacit conceptualisation that primarily uses it; but there is some overlap. Most involve some form of learning and development and all can be seen as contributing to transcoherence.

**Table 6. Reducing incommensurability linked to tacit conceptualisations**

Approach for Reducing Incommensurability	Tacit Conceptualisation
Acknowledgement: e.g. MBTI (Briggs-Myers et al., 2003)	Ineffable (strong) Below-view
Considering alternate wholes or gestalts:	Ineffable Below-view
Immersion and Socialisation: e.g. apprenticeship (H. Gardner, 1991; Schön, 1983), Communities of Practice (Wenger, 1991, 1998)	Ineffable (strong) Practice
Surfacing: through various mechanisms (Argyris & Schön, 1995) including 'boundary objects' (Bowker & Star, 2000; Star, 2010)	Below-view Taken for granted
Transformation: (Nonaka & Takeuchi, 1995)	Taken for granted
Reflection and exploration: (Nagle, 2002)	Presuppositions
Foregrounding: (Douglas, 1975)	Backgrounded
Translation:	Taken for granted

## Conclusion

That elements of collective coherence are held tacitly is a key finding of my research. This often amplifies the problems of faultlines, causing further team fragmentation. The literature from multiple disciplines offers many different conceptualisations of the tacit and associated approaches for dealing with its consequences.

Referring again to my musical model of transcoherence, all the elements require dealing with the tacit in some form. The acknowledgement of difference is foundational to reducing faultlines and for increasing synergy. Reflection, foregrounding, and surfacing are useful strategies to help members understand the nature of the various collective coherences existing tacitly within their heterogeneous teams. The weaving sections in the chapters show how some elements of transcoherence become more salient depending on the nature of the collisions the team encounters.

The following chapter explores an example where the differing logics of team members was not expressed initially and remained tacit for many of those involved until we explored their thinking during interviews. This is particularly interesting because personality clashes were openly and explicitly acknowledged.

## Chapter 4: Personality Clashes

Of all the potential ‘collisions’ participants reported during the project, the most common were termed ‘personality clashes’. However, there was a range of interpretations of both the nature and the cause of each such collision. I have chosen the following critical moment because it occurred early in the project lifecycle, it involved many of the central team members, it was seen as a critical moment by those involved, it highlights the role of personality in the project, and it provides an entry point into the type of personality clash I am interested in for this research: a collision of collective coherences.

### ***4.1 Critical moment – a personality clash***

The setting for this critical moment is the first Working Group meeting in late February 2013, held in a small meeting room in the Department. Attendees included Catherine (Branch Head and leader of the project), Arthur (her manager), Angelique (a Deputy Secretary), Jerry, Jeffery and Shirley (all Branch Heads and peers of Catherine), Amber, and myself.

I had just finished presenting a series of slides outlining the collaborative process proposed for the project. Because Angelique had arrived late, Catherine was chairing the meeting instead. This had placed a significant pressure on Catherine to work through all the agenda items within the remaining time. The members of the Working Group were known to each other and the meeting was amiable, seeming to hold the interest of all those involved.

As the meeting neared the end of its allotted time, both Jerry and Jeffery raised questions regarding the nature of the problem being addressed by the project and the proposed collaboration. Catherine, as chair, stopped discussion and attempted to close the meeting. At this point Angelique commented, ‘If you want to have collaboration you need to listen and take note of what other people are saying’. There was a moment of embarrassed silence after which Catherine quickly moved on and closed the meeting.

As Catherine and I walked back to her office, she confided to me that she was hurt that Angelique would humiliate her publicly like that, and could not comprehend why she had done it. She explained that it was obvious that there was time pressure and that she therefore had had to curtail the

discussion. Further, she considered the questions being asked were irrelevant, their tone was disrespectful of the team and attacked their work. None of that involved being opposed to collaboration.

Although I was sympathetic to her reaction, I had thought Angelique's comment reasonable and that it highlighted a need to conduct the Working Group meetings differently. This made me curious about other people's view of the event, so I dropped in on Jerry to seek his opinion. He was untroubled, stating that 'that is just how Catherine is,' but he did feel that he wasn't listened to. He focused on the content of a number of issues relating to the project that he felt needed to be addressed.

On the way back to my office, Amber asked to talk with me. She was distressed and felt the meeting was a 'disaster' and that Jeffery was 'furious'. She was adamant that Catherine had 'railroaded' people and not listened to legitimate criticisms.

So within an hour of the meeting I had run up against four markedly divergent perspectives of the same event (including mine). There was agreement on the stifling of discussion but the actual behaviours were interpreted in significantly varying ways. In particular, everyone attributed different motivations to the things that were done and said. The dominant interpretation of these motivations was that they were a reflection of each individual's personality, and this provides an access point for exploring 'personality' as a form of collective coherence in this chapter.

## ***4.2 The weft – working with personalities***

The critical moment outlined above acted as a trigger for the dual goals of 1) (for the project) improving the collaboration process, and 2) (for the research) exploring why and how collisions occur so that more can be learnt about how they can be managed through developing transcoherence. So, applying the first phase of the action research wave<sup>41</sup>, and working within the zone of acceptable innovation<sup>42</sup>, I initially intervened by exploring and diagnosing the incident through *chatting*<sup>43</sup> with those involved.

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<sup>41</sup> As described in Chapter 2

<sup>42</sup> As described in Chapter 3

<sup>43</sup> As described in Chapter 2



Catherine had a very definite position on the problem and her solution was to create 'rules of engagement' for these meetings. Further, so as not to waste people's time, she wanted to send out these rules via email, thus resolving the problem before the next meeting. This set one constraint on what could be done. However, through talking with others, it became obvious that this would in fact exacerbate the problem. I therefore explored ways of reframing the problem/solution with Catherine to develop an approach that would be acceptable to all those involved. A second major constraint was the lack of time available to get everybody together to work on the issue.

After much discussion Catherine and I agreed to shift from 'presenting rules' to me 'discussing potential ways of improving collaboration' with individuals from the Working Group. This would be done through my interviewing all those involved, which would also produce some data for my research. These interviews were supported by a single-page document of dot points that listed possible 'collaborative elements' that could be changed. The points on this document were drawn from the various initial *chats* I had had with people after the incident and provided a number of different avenues of thinking for discussion in the interviews. The points included the following:

- **Purpose:** Why is the Working Group meeting?
- **Structure:** attendees, roles, timing, and process?
- **Resources:** time, money?
- **Documentation:** What needs to be documented?
- **Priorities:** How do we decide what is most important?
- **Relationships and attitude:** How do we promote trust and openness?
- **Group dynamic:** How do we get the most out of this particular interaction?
- **Dealing with elephants:** How do we find those hiding in the room?

The interviews ran from around forty minutes to an hour and ten minutes. The points shown above were not followed in order or detail but used as *triggers* for bringing thoughts to the surface. Interviews were held in order of participant

availability, and in some cases the interview was held two months after the event (this also meant it was after the next Working Group meeting, which, by all accounts went substantially better). This issue of time, busyness and availability was a constant theme and will be addressed in more detail in Chapter 6: Incompatible Organisational Cultures.

After explaining the reasons for the interview, I began each with the initial question: 'What do you want to say or comment on?' The following is a synthesis of my analysis from the transcripts of the interviews and my notes from that period.

#### **4.2.1 Project member perspectives (collision? what collision?)**

The question must be asked, Was there a collision? and if so, Was it between different collective coherences? The short answer is 'sort of'. In general, people saw different things regarding the incident. What was highly visible to some was invisible or barely noticed by others. This occurred in relation to most elements of the incident including whether a collision had occurred at all. In Chapter 1, I defined the collisions I was interested in as 'disagreements between multidisciplinary team members that are not based on a difference of opinion over a particular, but reflect a deeper conflict of colliding trajectories of whole, alternate and still coherent views of reality'. This definition implies that multiple coherences or worlds can exist in the same place and that it is possible to find evidence of this. So how did the participants make sense of this event, and did they rely on a particular collective coherence?

All participants agreed that there was a collision of some kind, but only one person described the incident in a way that could be construed as a collision of alternative worlds. When it came to describing what happened, almost all the explanations provided individualistic causes as the basis for a 'conflict', with no recognition of multiple worlds or alternate realities. Only Amber came close to my definition when she said, "I don't think there was collaboration... there was just talking at cross purposes." By this she recognised that each of the participants had a purpose behind what they were saying and trying to achieve, but that these were all passing each other without shared understanding. The rest saw the collision as a clash around a point of conflict between busy individuals.

Those involved also differed on the significance attributed to the incident and the degree to which they saw it as a 'problem' or 'conflict'. Some saw it as a passing, 'minor issue', while for others it was 'disastrous'. When asked to rank the quality of the meeting from 1-poor to 5-excellent, the responses ranged from 1 to 4. There was consensus that the core of the 'conflict' was over Catherine's response to Jerry and Jeffery's questions and comments, but when asked about the underlying reasons for this conflict, the responses diverged substantially. In spite of this divergence, everyone agreed that the collaboration could be improved because of the general maturity and goodwill between members. From the participants' responses about the underlying reasons for the collision, I have identified seven main themes as to why the incident occurred, and have listed them below in order of importance attributed to them by the participants, starting with the most important.

1. Time
2. Individual preferences and personalities
3. Mindsets and/or disciplinary paradigms
4. Public service culture
5. Leadership
6. Ambiguity and role confusion
7. Meeting structure

All of these will be addressed in the course of this thesis, but for this chapter I will focus on the issues of time and personalities. The latter will make up the bulk of the data and reflection in this chapter.

#### **4.2.2 Time**

From the very beginning of the project, 'time' and, to a lesser extent, 'space' emerged as key issues that continually impacted on the successful 'one team' collaboration. Although time was frequently represented as a resource analogous to money and staffing, in this critical incident time was specifically related to either the length of the time for the meeting, or the busyness and time paucity of the Working Group members. How time was involved in the incident followed a certain logic that was identified by many in the group and represented here:

- everyone is very busy and under time stress,
- the meeting started late and had a huge agenda to get through in 45 minutes,
- there were different expectations on how much time was going to be spent on discussing issues,
- collaboration requires dialogue and real/effective listening, which is time intensive, and therefore ...
- there was insufficient time to collaboratively address the issues that emerged in the meeting.

None of this logic was expressed at the time and it remained tacit for many of those involved until we explored their thinking on the topic during the interviews.

Another element to emerge during the interviews was the impact of the structure of the meeting on the issue of time. The meeting structure was taken for granted and invisible to almost all, following a standard public service style of administrative process. (The *appropriate* use of time and meeting structure is a central factor in collisions between organisational cultures and is raised again in Chapter 6).

An agenda was circulated beforehand, an hour was allocated, and a chair presided over a series of points for comment and decisions as required. Looking back, it is now obvious to me that this structure would pose a problem for anyone wanting to engage in collaborative activity, but at the time everyone was operating on tacit assumptions that no one thought to question.

The collision occurred as people dealt with the lack of time from different perspectives. Consistent with efficient public service protocol and limited time, Catherine flew through the agenda in a 'tick and flick' style of chairing and decision-making. In contrast, Jerry and Jeffery ignored the time issue and began to discuss issues in depth, but without signaling either that this was intentional, or that for them it reflected a natural outworking of being collaborative. Thus, two collective coherences were operating, *efficiency* clashing with *collaborative* discussion. Nobody flagged the underlying different logics. Instead, people made passing comments that revealed assumptions that they thought the issue was obvious, the same for everyone, with only one possible interpretation.

Angelique provides a good example of this, stating in her interview that “the facilitation style [of the meeting was] in terms of almost a check-in with each person, rather than generating a dialogue between people”. For her this was wrong, because the project was not like others ... “I’m as equally interested in this as a process, given that the APS talks about collaboration being its major dilemma. And yet I can see completely why collaboration is difficult for us.”

Consequently, when she said, “If you want to have collaboration you need to listen and take note of what other people are saying”, she assumed that this was an obvious and natural comment to prod people back onto the collaborative track. In the same way, from Catherine’s perspective it would be obvious to everyone that she was forced to conduct the meeting in the way she did, and therefore it made no sense to her for Angelique to make her comment.

It is clear, then, that concrete and conceptual time were factors in this collision, by setting up a dilemma that each person responded to differently according to their different sets of logic. The conflict over time resulted in other forms of collision being pushed into visibility, particularly the issue of identities and personalities.

### **4.2.3 Identity, personalities and individual preferences**

The term *personality* was used frequently throughout the project, but with a variety of meanings. Despite this ambiguity, its meaning was usually reasonably clear *in situ* through its association with other terms and from the context within which it occurred.

First, people’s *personalities* were described as being ‘weak’ or ‘strong’. In relation to the Working Group, comments were made such as, “We are all clever and strong personalities ... we are used to being in charge”, “She has got a dominant personality”, and “She has very certain ideas of what she wants”. Strength here seems to relate to a sense of control or intimidation. This is more clearly seen in the following quote where there is a recognition that the seniority of position could produce a similar result: “Even if the senior people aren’t strong on their own

authority, what I've tended to find is that more junior people tend to still feel the intimidation of position rather than anything”.

A second way *personality* was used was to link it to broad differences in management and *communication style*. For example, “There will be some tension in the Working Group with a couple of members just because of very different kinds of styles and approaches”, and collaboration is going to be difficult “because there are quite distinct styles in this group”. These differences were also seen as influencing people’s perspectives on issues. “Everybody has a law degree but we’re really quite different and we don’t approach things in the same way at all.”

Finally, *personality* characteristics were attributed to specific people, and it is this last use of the term that is most relevant to this thesis. Individuals differentiated both themselves and others by particular *personality* characteristics. They viewed these differences as leading to *personality clashes*, with individuals championing their own particular type of view. For example, one person stated, “My interests are always people rather than the kind of processes”, while others described themselves in almost the opposite manner.

In order to ascertain whether there were collisions between different worlds of personality, I again need to draw on detailed data from the interviews as well as my journal and notes. While there is sufficient information to make some tentative conclusions, there is insufficient information on most people’s personalities to make conclusive comments on all those involved in the project.

During the year-long project, one person stood out, being mentioned in the clear majority of comments about most topics, including personality: Catherine, the project leader. Catherine appears as a topic and theme in almost every interview, as well as dominating the content in my journal and notes. This is not surprising, considering her role and the history of the project. Catherine was the project instigator (as described in Chapter 2), and staffing issues meant she had to directly manage the project team for much of the time, rather than just having executive oversight. She was the central node to which every aspect of the project was connected, and she dealt with almost everything on the project while still running a large branch of the public service. Her branch responsibilities meant that she had to

frequently travel interstate, adding further stresses and time pressures to her interactions with the project team. All of these points relate to the role of 'leadership' in this project, which is another constant theme for this thesis.

However, in most cases the nature of the comments about personality made it clear that the problem was seen as being more about 'her' than her role or position. This means that I have a wealth of detailed data on this particular person and on comparisons between her personality and others in the project.

Before drawing on the data, I need to make a clarifying comment. This discussion is about Catherine's personality, not her morality or leadership capacity. It was my pleasure to work with Catherine, and I always found her professional and ethical throughout the project, particularly in how she managed its end. I mention this because I think some people confuse personality differences with differences in morality, and I wish to be clear that I disagree with that position before engaging in any analysis.

The following, then, is a summary of Catherine's personality from the perspective of those who worked with her on the project. In most cases interviewees spoke with both admiration and confusion about Catherine. Specific expressions of her personality characteristics that were obvious were generally agreed on by all, including Catherine herself. In contrast there was strong disagreement over the assumed motivations that underlay her actions. In most cases people misunderstood her or proposed interpretations that shocked her as they differed so greatly from what she understood about herself.

So, in describing Catherine's personality, there was broad agreement on the surface behaviour and characteristics, such as being 'visionary' and 'big picture'. However, this was often linked to explanations of Catherine's underlying belief system which were almost the opposite of her own interpretation of her actions.

#### **4.2.4 Visionary**

Catherine was mentioned in interviews primarily as a 'visionary', with her immediate boss affectionately describing how "our little dynamo identified this

issue, we've gone along and – it's the tail wagging the dog, there's no question about that." Others describe her as 'having a clear vision', 'highly focused'. This visionary personality characteristic also "literally rallied the whole branch" and "this is not a project that was driven by the Secretary or by me [Arthur] in its inception. It was very much the product of particularly [Catherine] as a very enthusiastic and willing Branch Head" ... "It's her dynamism that got things going". This characteristic was represented by others as a unique element of her personality that made her stand out in the Department and be ideally suited to running the project.

People also linked this positive 'visionary' personality characteristic with a related negative "crash or crash through" approach to people. Her single-mindedness meant that some of the team felt "a bit like [Catherine] is kind of steaming ahead on a path that we're not involving the Working Group in" and that "[Catherine's] personality is probably the most visible in terms of kind of being a bit confrontational ... I think a lot of the time it's sort of done unintentionally". Although comments like these were negative, everyone was also clear in saying, for example, "I don't think that she's necessarily always aware of the impact that her words or behaviour have on people." Another example:

I think [Catherine] is a really nice person. When I met her I thought that 'she is very pleasant, very amiable, she is easy to get on with'. It's working with her personality type that I find really difficult and I think in the broader departmental scheme of things...

This led many to wonder why she was so supportive of collaboration, saying things like:

[Catherine] is quite an interesting personality type to be taking up a collaborative project. In some senses, she is the sort of personality type that I would see that collaboration would be a bit of an antithesis to, because she is very strong-willed and she sort of makes quick judgments about things and sticks to it, and in order to sway those, you've got to drip-feed her little bits of information over a period of time.

It also meant that people often found it difficult to talk with Catherine if they differed from her on a topic: "it's very hard to approach that with [Catherine] because, I would sort of refrain from using the word 'bully', but it is – you come across brick walls."



Some tried being indirect, garnering support before making a comment: “If there is something that you need done but you cannot get it done directly, you have to find ways of stacking the deck, so to speak.” Others tackled her head-on, even when to do so was not typical of their own personality type: “At times I felt like, oh bloody hell, this is going to sound really rude if I say this, but no other way of saying it kind of gets it across.”

Taking a stand also proved difficult: “She doesn’t like being taken on in a group setting”. Angelique’s comment, “You need to listen”, was picked up by many as summing up the problem of Catherine’s personality when involved in collaboration. Catherine was deeply offended by the public reprimand, but most wondered what else could have been done.

[Catherine] is very, you know, wants to get things done, has very firm views and is sometimes hard to be kind of moved from those views. So, I don’t think that mindset is particularly conducive to a forum where it’s supposed to be wide open.

#### **4.2.5 Big picture and divergent thinker**

Two other personality characteristics often mentioned were Catherine’s innovative, ‘big picture’ and divergent thinking. One person described her as “very high-paced and likes to, you know, explore ideas the minute they come to her, and she has a lot of those”. In contrast to the bulk of the rest of the team, “she thinks ‘big picture’ - we’re all stuck in the silo”. For many, this was seen as a major positive attribute, different from the standard public servant and essential for the project. In practice, however, many felt that “what we’re doing always changes according to something new that she’s heard or some person that she’s met.” In particular, Catherine’s interest in the increasing number of ideas, policy elements, and innovative practices uncovered over the course of the project, had a few people comparing her with a magpie “chasing after anything shiny”; “they are a shiny button that Catherine has seen and gotten excited by, not necessarily on the merits”.

This issue of divergent thinking and the constantly increasing number of ideas was addressed repeatedly, being discussed with the project team and the

Interdepartmental Collaboration Group. A full discussion on this issue has been presented in Chapter 3. The focus on personality in this chapter shines an additional spotlight on how people respond to new ideas.

#### **4.2.6 Resilient, naïve and not hierarchical**

Finally, a few other, less dominant characteristics were raised during the interviews that highlight the different ways in which people tried to make sense of Catherine:

[Catherine] has this curious, curious kind of naïve streak

[Catherine] I think displays - this is one of the characteristics that I quite admire about her - kind of a remarkable resilience.

[Catherine] is a really interesting mix of immersing herself into complexity but actually wanting single-word answers at the same time.

These combined characteristics meant that Catherine stood out as having an 'unusual' personality for the Department. By this, people did not mean that she was one of a group of people who thought differently, but rather she was an individual who "didn't fit" the Department's usual culture. Consequently, these differences resulted in many clashes and collisions. Most people considered that responsibility for these clashes resided with Catherine. Some perceived this as a result of moral failure on her part, while others simply said, for example, "I have worked with Catherine a lot and know how to handle her."

The result of these collisions had a severe impact on the unity of the team: "There's probably, definitely a personality issue there ... There's also a trust issue."

This issue of trust became critical for a few members of the team in the latter part of the project and required facilitative support to rebuild relationships.

### 4.2.7 Role of facilitator in dealing with personality issues

One outcome of this incident was to identify personality differences as an issue for the Working Group, the main team, and me as the process facilitator. This was not the only time personality came up; I dealt with personality issues throughout the project, mostly on a one-to-one basis but also more formally through workshops on personality type. When I suggested conducting a workshop on personality, Catherine and the Core Team were all interested and eager. Catherine's boss also thought it would be a great idea for the leadership of his whole division, but we were never able to find a time during the whole year to gather all of those people together to conduct the workshop. The Working Group members expressed interest but did not see it as a priority, and again due to time scarcity nothing formal was ever done to address the issue.

The formal intervention will be addressed in the warp of this chapter, but for now, insights from a few of the participants on my informal facilitation of personality differences are worth mentioning. For some, I acted as a mediator or buffer between people.

I think it's been valuable having you here, knowing there's a sounding board, but also as a kind of intermediary between myself and Catherine. So personally for me, it's been a really valuable thing. I don't think that things would have gone as well if you hadn't been here.

I think [facilitation is] particularly needed in a project where you have somebody with a kind of temperament that Catherine has, so I think the great benefit of your kind of personality is that you're kind of poles apart in terms of temperament. So I kind of viewed you and I as the kind of even and consistent versus the kind of her high energy, slightly more erratic ... I think if you hadn't been here, there is a much higher chance that things would have imploded."

Others saw my role as facilitator as more that of a translator, stating, for example, that I was "able to kind of do that deciphering role in a way that sometimes I couldn't because I was so damn cross with her."

For others, my position as an outsider meant that they used me to get their ideas across to Catherine, making comments such as she "tends to buy into expertise that's

from outside her team ... I think she sees you guys as objective.” One person, not quite so positively made the following response:

A: And I think we worked with [your facilitation]- I think we've all worked with it very well, but I think different sort of personalities, I think it could have gone severely wrong, don't you?

Q: So a very high risk.

A: It's worked - very high risk. I just think whether you like it or not, just because you know we do have certain things we have to do and certain people we have to answer to and I think very high risk and I think the fact that it's worked, I think you've made it work and I think, you know, the personalities in this team, it's a very high functioning team. I don't know if Catherine knows how good a team she's got.

From my perspective, the conversations around personality gave people an opportunity to vent and to potentially see an alternative logic to explain where Catherine was coming from. This was valuable, providing a path for increasing trust, and aligns with the formal use of personality type which is the subject of the next section.

### ***4.3 The warp - theory of personality type***

The complex set of entwined explanations, ideas, perspectives, and reasons for the critical incident described by those involved, makes it difficult to find a single explanatory framework with an ideal fit. Yet there are a few dominant themes that emerged, and among these personality stands out as significant.

Therefore, for this chapter the ‘warp’ is focused on a theoretical subset of personality, namely, *personality type*. This section provides an overview of this particular personality theory and a justification for its use in this thesis.

I used the Myers-Briggs Type Indicator® (MBTI) with the Core Team and with a number of others involved in the project. A widely used tool for analysing personality type (Loyd, 2012), the MBTI is a self-reporting, questionnaire-based,

psychological instrument that is intended “to make the theory of psychological types described by C. G. Jung understandable and useful in people's lives” (The Myers-Briggs Foundation, 2015) . “The essence of the theory is that much seemingly random variation in behavior is actually quite orderly and consistent, being due to basic differences in the ways individuals prefer to use their perception and judgment” (Briggs-Myers et al., 2003, p. 3). This coherence is expressed in an individual’s preferences in relation to a series of four dichotomies (McGuiness, 2004b, p. 3).

**Favorite world:** Do you prefer to focus on the outer world or on your own inner world? This is called Extraversion (E) or Introversion (I).

**Information:** Do you prefer to focus on the basic information you take in or do you prefer to interpret and add meaning? This is called Sensing (S) or Intuition (N).

**Decisions:** When making decisions, do you prefer to first look at logic and consistency or first look at the people and special circumstances? This is called Thinking (T) or Feeling (F).

**Structure:** In dealing with the outside world, do you prefer to get things decided or do you prefer to stay open to new information and options? This is called Judging (J) or Perceiving (P). (Foundation, 2015)

These combinations of preferences sort all individuals in the world into one of sixteen categories, which are called ‘psychological types’ (Loyd, 2012, p. 23). These types are often shown in a ‘type table’ (Foundation, 2015) as in Figure 22. Each of the sixteen types are ‘encapsulated’ in summaries of descriptive prose (Loyd, 2012, p. 23).

**Figure 22. MBTI personality type table**

Choose Your Type			
ISTJ	ISFJ	INFJ	INTJ
ISTP	ISFP	INFP	INTP
ESTP	ESFP	ENFP	ENTP
ESTJ	ESFJ	ENFJ	ENTJ
Choose Your Type			

MBTI has been used for professional and personal development, leadership, management, team building, coping with stress, conflict management, career counselling, job fit, and multicultural issues in organisations (Berens & Nardi, 1999;

Killen & Murphy, 2003; McGuiness, 2004b; Quenk, 2000; Renner, Menschik-Bendele, Alexandrovicz, & Deakin, 2014; VanSant, 2003; Zeisset, 2006). Its advocates claim that the theory is based on a strong foundation of research that has shown it to be both valid and reliable (Briggs-Myers et al., 2003; Renner et al., 2014, p. 2). So it is a logical choice for consultants and facilitators when trying to deal with a clash or conflict that involves personalities colliding. It also provides a theoretical explanation for the sorts of attitudes and behaviours that were exhibited in the critical incident that is the focus of this chapter.

### 4.3.1 Why choose type?

However, before I can apply this specific framework to the critical incident, I need to address another clash of worlds. A clash of two concepts occupy this same theoretical space: personality *types* versus personality *traits*. The differences between the two are technically important to those belonging to each theoretical world. The theory of personality type is highly contested in the world of psychology and therefore frequently disparaged and ridiculed. To most people, and for the purpose of this thesis, the dispute is arcane and technical, but for those who are interested I have offered a detailed comparison in Appendix 2.

In spite of its underdog status, I have chosen Type over Trait as the framework for this chapter. Therefore, I present a brief justification for my choice. It was not due to limitations in my own expertise. I am accredited and experienced in both, including the required understanding of the relevant theory and justifications provided for the validity and reliability of the instruments used. Rather, my choice resulted from a combination of positive and negative factors related to the potential of both theories for the purpose of my thesis. The positive factors relate to my research participants' engagement and understanding.

**Participant familiarity and the historical ubiquity of Type in organisational settings:** Most of the people involved in the project were already familiar with the MBTI, with many telling me their Type as soon as the topic was raised. This reduced the difficulty of learning for those involved and, for many, lent an element of credibility.

**Accessibility of relevant workshop material:** In my experience over a number of decades, the materials available for working with Type are readable by lay people and designed with work teams in mind. In comparison, most of the Trait materials are technical and confusing for non-psychologists. Since my relationship with the people involved was not that of academic to student, but rather, facilitator to expert, I needed to keep the information in a non-threatening and easily adopted form.

**Constructive approach to conflict for all types:** I will deal with this in detail in the next section, but this decision factor enabled me to work with everyone involved to develop their own strengths and not treat them as deviant. The negative factors relate primarily to *personality trait* being an inappropriate model or paradigm for the research context.

**The moral overtone and normative nature of traits:** This is related to a foundational assumption supporting the coherent structure of trait theory. That is, the use of ‘positive’ and ‘affirming’ descriptors for high scores on traits, and corresponding ‘negative’ and ‘derogatory’ descriptors of low scores (Loyd, 2012, p. 27). In my experience, this leads to individuals trying to change their profile to align with what they think it should be. In some situations, I have seen people become disappointed that their profile shows them as being ‘not as good’ as others in the group. This reflects a view of the world where trait theory is used on patients who may have ‘disorders’ or need ‘treatment’ (see Boyle, Matthews & Saklofske (2008) Particularly Section VI on applications.)

This has been a very limited explanation of type theory, but further elaboration will emerge in the next section.

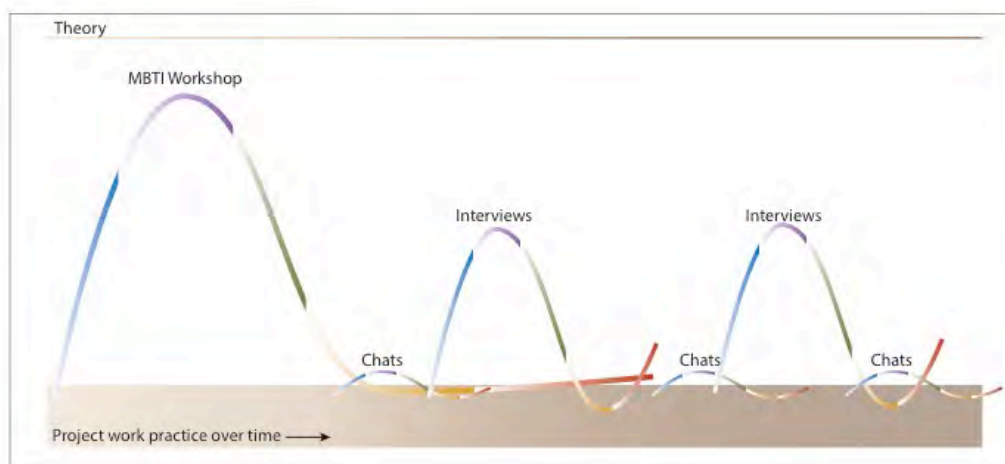
#### ***4.4 Weaving warp and weft – personality type in practice***

In each chapter this section weaves together the disparate views of the participants and relevant theory; in this case, the clashes between people and the theory of personality type. This interaction of practice and theory is captured through reflection on the interventions conducted with the project team and the resultant insights gained. With the permission of the participants, I was able to intervene in the project collaborative process in three ways:

1. Workshops on personality type
2. Reflection on personality during interviews
3. Informal discussions and interactions

The difference in these interventions provided different advantages and constraints. In particular, the use of personality theory shifted the team's focus from seeing Catherine alone as a person with a complex and flawed personality, to a more inclusive view of everybody belonging to particular personality types that have both strengths and blind spots (Killen & Murphy, 2003). Core Visual Heuristic D.3 below gives a visual representation of these interventions as portrayed by the action research wave described in Chapter 2.

**Core Visual Heuristic D.3. *Three forms of intervention related to personality***



The workshops were formal activities conducted early in the project lifecycle, and introduced the theoretical concepts that enabled the other two interventions to succeed. The top of the wave does not quite reach the theory line. This represents the limited induction of participants into the body of knowledge around personality type. Interviews were conducted a number of times where possible, referring to and applying the theory where relevant, but not introducing new theory. The ongoing chats occurred periodically as the issues came up and were closely connected to the work practice at the time.



### 4.4.1 Workshops

Following the incident described at the start of this chapter, I offered to provide facilitated workshops on personality type for the Core Team, the Working Group, and the Division within which the team operated. As mentioned above, the only group to take up the offer was the Core Team and a few other individuals.

The stated purpose of conducting these workshops was to improve the team's collaboration through an increased awareness of an individual's own personality type and those of others in the team. Within my language of collective coherence, I would describe this purpose as supporting people in a shift from a mono-world view of personality type to a multi-world view. The formal view of multiple personalities includes an awareness of different types of 'normal', or 'mental frameworks' (Lawrence, 2010). This increased awareness should then lead to a better understanding of each other and a related improvement in sensitive communication and conflict resolution. In particular, there should emerge an increased capacity to bridge the different worlds of personality, reducing the incommensurability between different types.

Prior to the workshops, each person filled out a standard MBTI self-reporting, questionnaire-based, psychological instrument. I analysed the results and checked with each person to validate that their specific type was correct from their understanding as per the standard procedure set out in the MBTI manual (Briggs-Myers et al., 2003).

The workshops were dialogic in nature, and drew on excerpts from three books provided to the participants: Berens et al. (2001); Killen and Murphy (2003); McGuiness (2004b). Each excerpt included a description of an individual's particular type and were only one or two pages in length (an example can be found in Appendix 3). I also relied on a number of other sources to back up the process, the most important being:

- The MBTI Manual (Briggs-Myers et al., 2003) used in accreditation
- A book on type and stress (Quenk, 2000)
- A book on type and conflict (VanSant, 2003)
- An article distinguishing type from traits (Lawrence, 2010)

The workshops were broken into three main phases:

1. A basic understand of type in general and participants' own type in particular
2. Communicating across types, acknowledging sixteen different 'kinds of mind', 'ways of filtering experiences', or 'mental frameworks' (Lawrence, 2010)
3. Looking at conflict through the lens of personality type.

Each of these phases were intended to support a gestalt-like shift from a mono-personality view of the world to a multi-personality perspective. I hoped especially that the workshops would help team members to interpret the behaviours of others differently and decrease tendencies of jumping to conclusions. These goals could be summed up as attempting to raise the awareness of the existence of other worlds of personality.

### **Workshop Phase 1: Raising awareness of other worlds of personality**

The first phase introduces participants to the theory of type and leads them through an exploration of their own personality type and then the type of others in the team. With the Core Team there was general acceptance of the concepts introduced and no one explicitly expressed reservations about the theory. This allowed us to have a common language with which to discuss issues that could be attributed to differences in personality type. Each participant found that they matched the type description attributed to them from their self-reporting survey. In a number of cases people expressed surprise at how accurate the description was. This is a common finding, but the most fruitful insights came as people learnt about other people's type, especially Catherine's. The following list connects a few key individuals with their personality type. These individuals will be used as the basis for a description of the use of type differences to raise awareness of other worlds.

- Catherine - ENTP
- Amber - ESFP
- Dolores - ISTJ
- Hermione - INTJ
- Craig - ENFP

The central person in this group was Catherine. The descriptions of her personality type (ENTP) helped reduce the incommensurability between her and others in the team by showing her to be a normal member of an identifiable group who function with similar mental frameworks and ways of filtering experiences (Lawrence, 2010), rather than a unique individual possessed of character flaws.

### *Catherine - ENTP*

There is a striking alignment between the descriptions of Catherine in the weft part of this chapter and the descriptions of ENTPs in the related literature. Table 7 places a few of these side by side. In the workshop this was so startling that a number of people had an ‘ah ha!’ moment, commenting later that they had suddenly seen Catherine in a different light. Catherine had shifted from being an unusual or abnormal individual to being a member of a group who shared a similar view of the world. This sense of revelation about another’s personality occurred between a number of people in the team, but was most pronounced in reactions to Catherine and the ENTP personality type. Altogether the shift is a good example of the reduction of faultlines in the group.

**Table 7. Comparison of descriptions of Catherine and ENTP characteristics**

<i>Catherine</i>	<i>ENTP</i>
<b>Visionary</b>	ENTPs are spontaneous, energetic and innovative lateral thinkers. They value knowledge and competence and need autonomy and intellectual freedom. (McGuinness, 2004a) They push boundaries as independent problem solvers who are masterful originators of new ideas and possibilities. (Berens et al., 2001)
<b>Dynamo</b>	Seen as confident and energetic, they are massive consumers of information (Berens et al., 2001) Under stress they may live as if in a tornado of uncontrollable energy and criticism. (Killen & Murphy, 2003)
<b>Complexity and simplicity</b>	They like complex problems and construct internal models to find solutions. ENTPs are constantly questioning and seeking ways to improve whatever they are involved in. (McGuinness, 2004a)
<b>Can trample people's feelings</b>	ENTPs are not always aware of people's feelings and may unintentionally say things that offend others. Their high expectations may lead them to be over-critical... They are often impatient. ENTPs expect honest and open communication and may have difficulty with someone who is emotional or closed-minded. (McGuinness, 2004a) Quick to analyze and critique situations, they are problem focused rather than people focused in their interactions. (Berens et al., 2001)
<b>Divergent Thinking</b>	Under stress they may pursue new ideas or possibilities without ever choosing one to act on, or just for the sake of being different. May want to explore complex models with far-reaching conclusions when a simpler approach is all that's needed. (Killen & Murphy, 2003)
<b>Big picture</b>	They scan the environment for ideas and connections, and seek constant change. Their language tends to be global, impersonal and logical. (McGuinness, 2004a)

### *Awareness of different coherent wholes*

In the final part of Phase 1, building on these insights into personality differences, I asked people to identify different roles in group activity that would naturally fit with other team members' personality types. There were numerous suggestions in each case but the dominant ones from our sample types appear in Table 8.

**Table 8. Identified team roles from personality types**

Person	Role
Catherine - ENTP	Visionary - ideas generator
Amber - ESFP	People radar - warm, detailed, caring, encouraging
Dolores - ISTJ	Highly organised administrator - thorough, systematic
Hermione - INTJ	Analytic and strategic - self driven, deductive reasoner
Craig - ENFP	Facilitator motivator - grasp profound significance, enthusiastic

This led into a discussion on the different ways in which we each view the world, and how we may misinterpret the behaviour and thinking of others when we apply our own personality framework onto them. The recognition and validation of multiple roles increased the synergy of the team as each person developed their own role and spent less energy on being troubled about the behaviour of others.

Supporting the reduction of faultlines and the increase of synergy were a number of visual heuristic tools. The first is a simplified version of the 'Ladder of inference' model<sup>44</sup>. This model is an example of a framework for exploring "how like-minded individuals group together to make sense of their environment" (Tompkins & Rhodes, 2012, p. 84). It also relates to the work by Karl Weick (1995; 2000) on group sensemaking. The model (Figure 23) is introduced by Ross (1994) with the following passage:

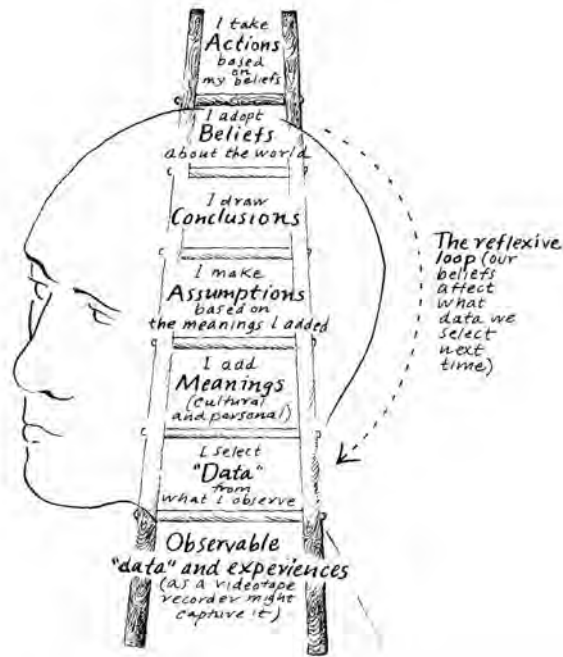
We live in a world of self-generating beliefs which remain largely untested. We adopt those beliefs because they are based on conclusions, which are inferred from what we observe, plus our past experience. Our ability to achieve the results we truly desire is eroded by our feelings that:

- Our beliefs are *the* truth.
- The truth is obvious.

<sup>44</sup> This draws on work from William Isaacs (1999), Chris Argyris (1993), and Peter Senge (1994). Teri Tompkins (2012) provides a more detailed history of the development of the model, dating back to ideas from the mid 1880s. I have adapted and utilised versions of this model since the mid 1990s.

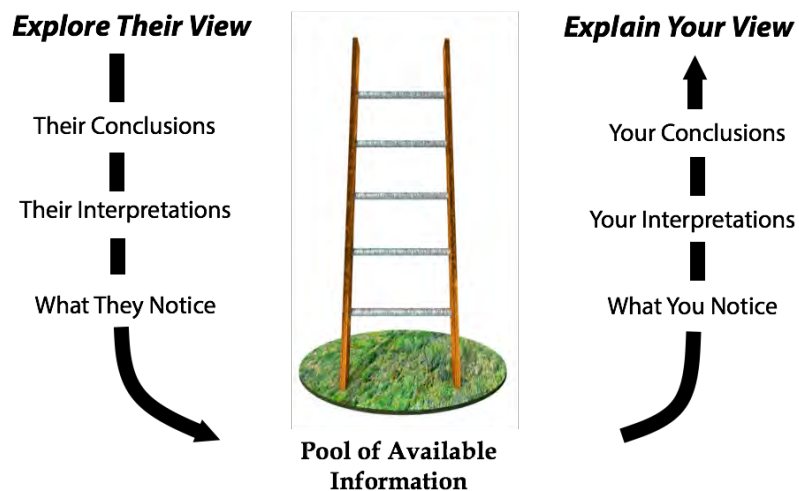
- Our beliefs are based on real data.
- The data we select are the real data.

**Figure 23. Ladder of Inference by Rick Ross in Peter Senge (1994)**



The Ladder of Inference is a good example of a model that recognises the tacit nature of collective coherence, and I have long found it useful as a practitioner. In this case I used an adaptation of the model (Figure 24) to frame an activity where people explored a different personality’s view of an incident.

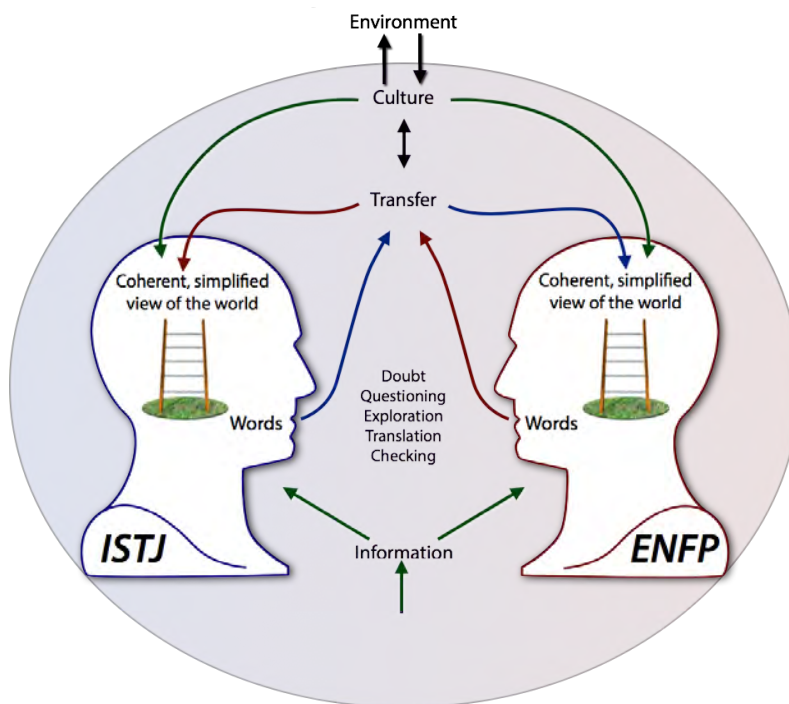
**Figure 24. Workshop slide on using the Ladder of Inference**



## Workshop Phase 2: Communicating into another 'type'

In the second phase of the workshop, we drew links between the concept of personality type, the ladder of inference, and a general model of communication. The key slide relating to this is shown in Figure 25. The group then engaged in a series of activities that encouraged people to communicate between the different worlds of personality types.

**Figure 25. Workshop slide on speaking into another type**



The reference documents supported these activities by representing the thinking of people from the position of a third party, thereby helping to authenticate the views held by the individuals. For example, Dolores (ISTJ) readily agreed with the following description of her type's communication style:

ISTJs like clear and specific instructions and may have difficulty with symbols and metaphors. They will often prefer to listen or to communicate in writing, such as email. In discussions they want closure and solutions, rather than exploration. (McGuiness, 2004b, p. 30)

These activities opened up insights into the very different worlds of personality from the point of view of communication preferences. This was the first time some people had considered that others may prefer to communicate in a totally different manner to their own. In a few cases there was a sense of disbelief that a logical and sane person would want to communicate 'that way!' The self-revelation of the team

members, backed up by the MBTI documentation, enabled the overcoming of this disbelief.

### **Workshop Phase 3: Conflict and stress**

The final phase of these workshops on personality looked at how different personality worlds react to and cope with stress and conflict. This was possible because of the foundation already laid. First, the team had already recognised that they faced a heightened exposure to stress and conflict due to the nature of the project. Second, personality differences had already been identified as one area of conflict. Third, the literature on personality type in conflict assumes that “we are all wired differently for conflict and we can use that knowledge to clarify and enhance our personal, interpersonal and organisational relationships” (VanSant, 2003, p. xi).

In addition, I was specifically interested in the conflicts associated with collisions of different collective coherences, and authors on ‘type’ recognise this sort of conflict as directly related to differences in type. For example,

Many conflicts ... hit us out of the blue. We’re surprised to wind up arguing, misunderstanding, or talking past each other when we and other generally reasonable people try to negotiate decisions ... or work for the same goals ... Little do we recognize that we literally may be on different wavelengths — brain waves that is” (VanSant, 2003, p. 5)

The goal was to help team members to “better strategize how to approach conflict, communicate when in conflict with others, and resolve conflict situations” (Killen & Murphy, 2003, p. 1). This includes conflicts directly related to personality differences as well as other forms of conflict (VanSant, 2003, p. 15). The discussion around these differences produced some more ‘Ah ha!’ moments as individuals again experienced a gestalt shift in their thinking to recognise that there were groups of people with totally different responses to conflict. At the end of the workshop there was general agreement that personality type had provided a new and helpful way to understand people. In the terminology of my concept of collective coherence, I would argue that the team gestalt shifted from a mono-world view of personality to a multi-world one. Unfortunately, this didn’t last.

#### 4.4.2 Reverting to an original collective coherence

Personality conflict arose as an issue in the early part of the project lifecycle and the formal workshop intervention was conducted soon after the incident. However, collisions of personality worlds continued to occur throughout the rest of the project, and these were dealt with in an ongoing way through both the interviews and informal chats.

The immediate success of the workshops was clear and significant, with the emergence of a *type* language being used to discuss differences and create commensurate points of agreement and validation regarding the different personalities in the team. Team members appeared to have adopted a new transcoherent way of interpreting more positively the behaviours of those they had previously had only a negative explanation for. Yet over time, some in the team retreated to their previous mono-world position on interpreting actions as the result of personality flaws of other people, particularly in relation to Catherine.

The following example shows how initially one of the ISTJ personality types reframed her frustrations and stress away from blaming them on 'bad' ENTP characteristics to a recognition of the value of having both personality types working together. This note was made a couple of months after the workshops. It is particularly significant because this person had a long-term personality conflict with Catherine, but now grouped Catherine [ENTP] and me [ENFP] together as providing something worthwhile to the process. This was unprecedented.

Dolores [ISTJ] versus Catherine [ENTP]:

[ISTJ] stopped me to complain about being stressed. The problem with the lack of closure and [ENTP]'s need to go after the next shiny thing. [ENTP] is like a magpie.

She [ISTJ] is aware of her own J tendencies and said that she realised that P characteristics of [ENTP] and myself were like the hot air in the balloon and she provides the ballast to bring it back down to earth. (My notes)

The following two examples contain comments from two of the staff just before each left the project. In both cases they identified personality clashes with Catherine as a



significant factor in their decision to leave. After the workshops, both of these people had acknowledged that they functioned in different personality worlds from Catherine and each of them exercised a large amount of effort in interacting with Catherine in ways that sought to bridge the world gaps between them. In spite of this, by the time of their departure from the project they both sounded almost the same as when the issues first surfaced early in the project.

The two individuals have very different personality types from each other and from Catherine, but each framed the reason for leaving the project as founded in an 'obvious to all' flaw in Catherine's personality. Yet when looked at closely, the flaws identified by each are different.

The first example draws heavily from the final interview I conducted with Hermione (INTJ) the content research expert on the project. Keep in mind that Catherine is an ENTP.

Q: There's a range of possibilities why people might come into conflict. What do you see are the reasons behind the conflict between you and [Catherine]?

A: [Hermione-INTJ] Well I think there's probably definitely a personality issue there. There's also a trust issue and I don't think it's just me that – I don't think she trusts anyone, which surprises me because everyone I know here is a very competent employee. I don't think anyone's given her any reason not to trust.

Q: With that, was her attitude to you a major factor in you leaving earlier?

A: Definitely.

Q: So had you already thought, "Okay, I've got to look at a way of getting out of this", or was it more that when something came up, it was, "Great, here's an opportunity"?

A: No, I had to get out of it because as much as I enjoy working with everyone else, I sort of – I've really not enjoyed working with [Catherine]. I found it incredibly frustrating and I feel like the goal posts were constantly changing and for me, that's a bit of a futile situation.

I think [Catherine's] really fixated on the amount of time I'm here rather than the amount of work I'm doing, which to me is a very strange concept and I think that – and I know other staff feel this way - there's sort of a distinct lack of appreciation from her ... So I don't think I could have pleased her no matter what I produced, because I think that she values personal interactions more than sort of paper-based outputs.

Table 9 compares the conflict pairs of Hermione and Catherine. Almost all of the factors listed were evident in the relationship breakdown, particularly the focus on trust and the frustration with the lack of resolution. In my experience, the feeling of goal posts constantly changing is a classic complaint of a 'J' personality when describing a 'P'. These factors had been acknowledged after the workshop as relating to a group of people, but were raised in conversations around this later stage in the project as proof of an individual's character flaw.

**Table 9. Catherine (TP) versus Hermione (TJ) conflict pairs comparison**

	TP	TJ
<b>Likely cause of conflict</b>	Challenges to/ of trust	Challenges to/ of authority
<b>Desired outcome</b>	Defined process or progression	Closure or resolution
<b>Deal with emotions by</b>	Excluding them	Denying they exist
<b>Others' impression</b>	Catalyst of or contributor to conflicts	Detached or aggressive adversary
<b>Satisfied when</b>	There is analyses of the outcome	Conflict is over

(Killen & Murphy, 2003; VanSant, 2003)

In comparison, the conflict between Amber (ESFP) and Catherine (ENTP) is primarily focused on how people were feeling and valued. This is a priority for those with 'F' in their personality, and is amplified by Amber's ridicule of Catherine's project as just a "frolic of interest".

Sometimes I have wondered, in my crosser moments, whether this is kind of an exercise in, you know, a frolic of interest of [Catherine's].

[Catherine–ENTP] didn't listen, stomped on people and just said that 'we aren't talking about that'.

Amber also expressed concern with how the team was afterward, that they had been flattened and not appreciated. Table 10 compares the conflict pairs of the protagonists in this example, and again there is a clear resonance between the theoretical descriptors of response to conflict and the descriptions used by those involved.

**Table 10. Catherine (TP) versus Amber (FP) conflict pairs comparison**

	TP	FP
<b>Likely cause of conflict</b>	Challenges to/of trust	Challenges to/of values
<b>Desired outcome</b>	Defined process or progression	Respectful listening
<b>Deal with emotions by</b>	Excluding them	Accepting them
<b>Others' impression</b>	Catalyst of or contributor to conflicts	Want to include other's values and concerns
<b>Satisfied when</b>	There is analyses of the outcome	There is open exploration

## 4.5 Conclusion

What conclusions then can be drawn from this exploration of personality clashes? I will address this in the context of the originally stated dual goals of 1) (for the project) improving the collaboration process, and 2) (for the research) exploring why and how collisions occur so that more can be learnt about how they can be managed through developing transcoherence.

**Professional practice - Improving the collaboration process:** Identifying and addressing the issue of personality had an immediate positive impact on the quality of the collaborative interactions between team members. The theory of personality type was readily absorbed and broadly accepted. This initial success led Catherine and her manager to consider that the time taken on the workshops had an excellent

return on investment (ROI). The various tools and concepts introduced became part of the *lingua franca* of the team and were often used to defuse potential conflicts.

Over time, however, people reverted to their original position and the team began to fragment to the extent that at least two people left citing 'personality conflict' as the major reason. As the project progressed, team members moved from explaining most issues through the framework of personality type to barely mentioning it. In my experience, 'Type' practitioners would attempt to remedy this problem by running the team through a 'refresher workshop'.

However, I don't believe that this would have helped, as all those involved were intelligent, with excellent memories, and reminding them of information they knew quite well would achieve little. What was lacking was more depth on how to support the shift from a mono- to multi-world sense of reality, and this segues nicely into the second of my stated purposes.

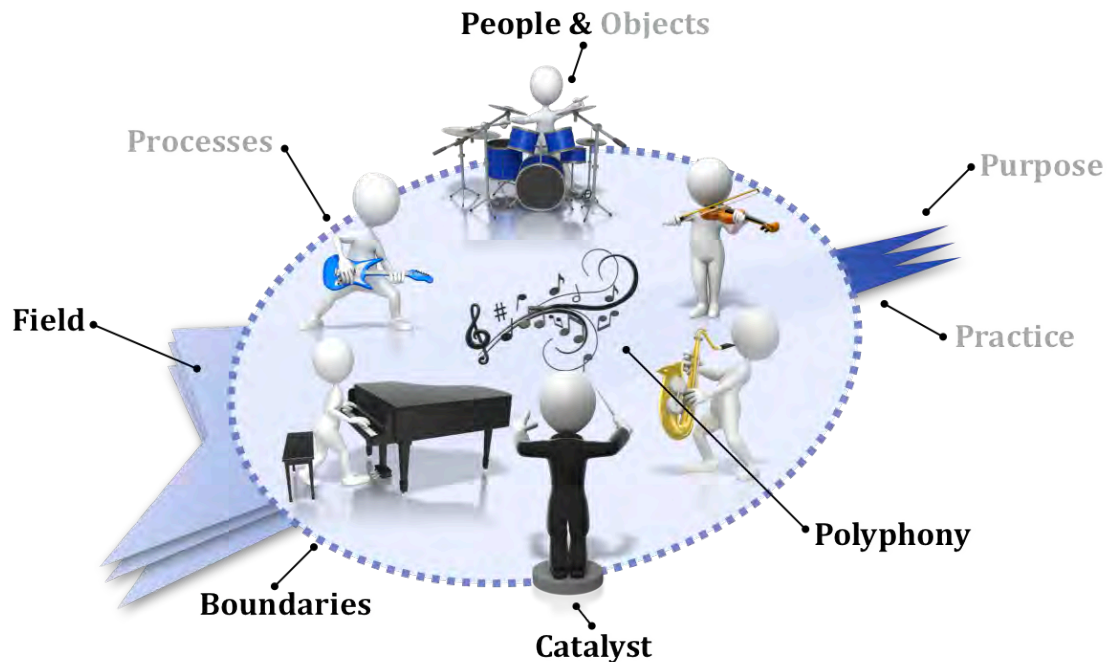
**Exploring why and how collisions occur so that more can be learnt about how they can be managed through developing transcoherence:** The workshops, interviews, and chats brought a rich collection of information to the surface about why collisions occur. Individuals originally gave a limited collection of mixed reasons for the cause of the personality collisions, but more tacit reasons were surfaced through the various interventions.

Few people initially expressed their interpretation of incidents of conflict in terms that would appear to fit with my concept of collisions of collective coherence. However, the introduction of sixteen alternative worlds of personality set up a potential new way to make sense of the disturbing behaviour they perceived in others. There was a clear and strong alignment between the theory of personality type and the participants' lived experience. In particular, the similarity between Catherine's personality and the description of ENTPs supported individuals shifting from a mono-world view of personality that treated the concept as a way of describing another's flaws, to an acknowledgement of the existence of multiple worlds of personality, each of which is filled with people who think and act in a manner similar to that world/group's normality.

Yet in the end, individuals reverted to a coherent interpretation they had previously discarded. Why? I think this issue of retreat and reversion is relevant to all the differing collective coherence frameworks and can be explained as a retreat from triple loop learning to the safer 'denial of incoherence'. That is, each person was faced with an ongoing threat to their deeply held, tacit coherence, creating a troubling 'cognitive dissonance' (Festinger et al., 1964) that begged for resolution.

At the same time the interventions also helped in developing transcoherence in the Core Team. Of the eight elements in my model, the following were most significant for these types of collisions (the others are greyed out).

**Core Visual Heuristic C.6.      *Relevant elements of transcoherence***



**Boundary objects:** The weaving in this chapter shows that multiple visual models were introduced to the team. These primarily functioned as boundary objects, creating a neutral mental place that everyone could inhabit whilst retaining the validity of their own coherence.

**T-shaped people:** The time invested in learning about MBTI extended the interpersonal and communication skills of team members. It also shifted the group's understanding of its purpose, adding personality differences as a new valid dimension for working together.

**Field:** I was struck by how strong the reliance on the family field was for team members in a work conflict.

**Catalyst:** In addressing collisions of personality, this chapter shows most clearly the use of my role as a catalyst. The multiple interventions of workshops, interviews, and chats each required different aspects of listening, facilitation, and nudging of people towards validating the potential synergy in harnessing multiple personality types.

**Polyphony:** Reducing conflict and developing synergy between different personality types is a central goal for MBTI. As the originators of the theory state in their book *Gifts Differing* (Briggs-Myers & Myers, 1995), personality type “can help you to understand and appreciate the reactions of those around you who, with differing gifts, seem to be marching to a different drummer” (p. xi).

Finally, personality clashes revealed that one way of dealing with incoherence is to question the other person’s legitimacy, which leads us into the following interlude.



## Interlude: Gaining Legitimacy

### *Introduction*

This interlude is focused on the *legitimacy* of individuals, groups, and organisations, with a particular interest in what this concept means for collective coherence. The data from my project shows that legitimacy was indeed a key issue. The Core Team were concerned that the project report and process be seen as legitimate so that the proposals would be taken seriously. But they were often surprised to find themselves struggling to gain that legitimacy.

Their perceived lack of legitimacy was due mostly to criteria tacitly held by others. This aligns with the literature, where legitimacy judgments tend to be passive and unconscious unless *jolted* into conscious evaluation by some trigger, such as perceived incoherence.

As with most of the other interludes in this thesis, *legitimacy* as a concept has both a well-known general meaning and multiple, more specialised meanings derived from various academic disciplines. Therefore, I begin this interlude with a clarification of the uses of legitimacy in the literature. Following this I develop a model of legitimacy, relevant to collective coherence, that takes into account the multiple dimensions of the term in the literature.

### *A mix of 'legitimacy' definitions*

The Macquarie Dictionary defines 'legitimate' as

“Lawful, in accordance with established rules, principles or standards. Logical. Genuine; not spurious” (Delbridge, 2005).

This general meaning carries over to the technical meanings from the literature, in the sense of conforming to expectations that relate to standards. However, there are more specific meanings, depending on the academic discipline, “particular actors, audiences, and context” (Montenegro de Wit & Iles, 2016, p. 2). This variation is

acknowledged in the reviews of the literature. There is also general agreement that the term has its deepest roots in political and institutional theory (Badie, Berg-Schlosser, & Morlino, 2011; Bitektine & Haack, 2015; Breckman, 2013; C. Johnson, Dowd, & Ridgeway, 2006; Santana, 2012; Scherer, Palazzo, & Seidl, 2013; Tilling, 2004).

Legitimacy has also been defined by comparison to some other closely linked, important concepts in political and organisational theory: *identity* (A. D. Brown & Toyoki, 2013), *power* (Pfeffer, 1981), *authority* (Passini & Morselli, 2013) and *reputation* (Bitektine, 2011; King & Whetten, 2008). The distinction in the literature between *reputation* and *legitimacy* is especially useful for developing a basic broad understanding of the latter term.

- **Legitimacy** is focused on similarity, and emphasises social acceptance, the right to participate with others in the social context.
- **Reputation** is focused on difference, and emphasises comparisons among organisations (Bitektine, 2011), a perception that organisations are positively distinctive within their peer group (King & Whetten, 2008).

For my current purpose, I need to simplify the complexity of disciplinary definitions so that I can use legitimacy as both a theoretical and a practical tool. Therefore, I propose a heuristic that notes the different possible combinations of key elements within the systems of legitimacy. This heuristic is in the form of a sentence about a legitimacy system, with replaceable parts, viz:

*[Evaluator/s] granting [content] legitimacy to [target/s] in [context] at [time]*

The replaceable elements are denoted by square brackets [ ]:

- the 'evaluator' - the entity conferring legitimacy
- the 'content' - specifies the nature of the legitimacy, e.g. political legitimacy
- the 'target' - the entity that the legitimacy is being conferred on, and
- the 'context' and 'time' in which everything is happening.

For example, as a PhD student, I hope that my university (evaluator) will grant academic (content) legitimacy to me (target) in the (context) of post-graduate research at the appropriate graduation ceremony (time). With this heuristic in



place, I will now explore its elements and relate them to the different legitimacy systems in the literature.

### ***Legitimacy scale: evaluators and targets***

Much of the literature divides the operational scale of legitimacy into either two (micro/macro) or three (micro/meso/macro) levels. Identifying the scale helps to clarify the different mechanisms occurring at each scale and between scales. Table 11 provides some indicative examples of the various uses of scale.

**Table 11. Examples of legitimacy scale in the literature**

<i>Micro</i>	<i>Meso</i>	<i>Macro</i>
Individual/s (P. Haack, 2012)	Organisations & institutions (P. Haack, 2012), (Baumann-Pauly, Scherer, & Palazzo, 2015)	Sectors, industries, disciplines or fields (P. Haack, 2012)
Groups (R. C. J. Richards & Gastil, 2015)	Neighbourhoods (Zimmerman & Zeitz, 2002)	Regions & nations (P. Haack, 2012)
Organisational sub-unit/s (P. Haack, 2012)		Global or world (P. Haack, 2012)

These differences in scale also help to identify the variety of potential evaluators and targets, and the nature of the system at that scale. The micro scale is often concerned with the psychological or psycho-social mechanisms of legitimacy and therefore the targets tend to be individuals or small groups. The evaluators may also be individuals but are more often the organisations, institutions or disciplines that confer legitimacy on individuals.

The meso scale is generally concerned with small groups as targets particularly as they are evaluated by the internal and external stakeholders of organisations (Drori & Honig, 2013). “Legitimacy is conferred upon or attributed to the organization by its constituents. Legitimacy justifies the organization's role in the social system and helps attract resources and the continued support of constituents” (Ashforth & Gibbs, 1990, p. 177).

Finally, at the macro scale the issues of political legitimacy begin to dominate. In this system the targets tend to be the governing institutions and those individuals and groups connected to them. Examples of this are sustainability and corporate legitimacy from a global perspective (Scherer et al., 2013).

## *A typology of legitimacy ‘content’*

Probably the most variable of the replaceable parts in my heuristic is the ‘content’ (Tost, 2011) of legitimacy under discussion. This is also referred to as ‘form’ (Thurlow & Helms Mills, 2015), ‘type’ (C. Johnson et al., 2006) or ‘nature’ (Drori & Honig, 2013). Multiple ‘types’ of legitimacy have been identified within the literature. While the meanings of the terms used are often similar and overlapping, they usually differ in how types are grouped together and whether they relate to each other as ‘and’ or ‘either/or’. Table 12 presents a list of many of the common terms used in the literature, along with a brief description and a primary reference.

**Table 12. Legitimacy Typology. (Adapted from (Bitektine, 2011, p. 154)**

<i>Legitimacy Content</i>	<i>Description</i>	<i>References</i>
<b>Pragmatic legitimacy</b>	Based on self-interest or self-interested calculations.	(Suchman, 1995), (J. Johnson & Holub, 2003)
<b>Instrumental legitimacy</b>	Based on perceived promotion of the material interests of the individual	(Tost, 2011)
<b>Moral legitimacy</b>	Based on normative approval or moral approval of most members of society.	(J. Johnson & Holub, 2003)
<b>Relational legitimacy</b>	Based on the affirmation of individuals’ social identities and bolstering their sense of self-worth.	(Tost, 2011)
<b>Normative legitimacy</b>	Based on existing norms and laws	(Badie et al., 2011)
<b>Cognitive legitimacy</b>	Based on taken-for-grantedness, or tacit	(J. Johnson & Holub, 2003)
<b>Authoritative legitimacy</b>	Related to the authority of laws, customs or individuals who hold some type of institutional authority	(Thurlow & Helms Mills, 2015)
<b>Internal legitimacy vs</b>	With organisation’s insiders	(Drori & Honig, 2013)
<b>External legitimacy</b>	With organisation’s external constituents	
<b>Managerial legitimacy vs</b>	Based on efficiency logic	(Bitektine, 2011)
<b>Technical legitimacy</b>	Based on technology, quality, and qualifications	
<b>Media legitimacy</b>	Equated with legitimacy with the general public	(Deephouse, 1996),
<b>Regulatory legitimacy</b>	Legitimacy with government regulators	(Deephouse, 1996),
<b>Procedural legitimacy</b>	Based on soundness of procedures	(Suchman, 1995),
<b>Consequential legitimacy</b>	Based on the evaluation of outcomes	(Suchman, 1995),
<b>Structural legitimacy</b>	Based on the evaluation of the organisation’s structure	(Suchman, 1995),
<b>Personal legitimacy</b>	Based on the charisma of leaders	(Suchman, 1995)
<b>Claim legitimacy</b> <b>And/or</b>	Based on accepted and expected statements within a context that are judged as just or rightful	(Santana, 2012), (Passini & Morselli, 2013)
<b>Rational legitimacy</b>	Based upon specific knowledge claims that are accepted as relevant or ‘true’ in a given context	(Thurlow & Helms Mills, 2015)
<b>Sociopolitical</b>	Based on existing norms and laws	(Díez-Martín, Prado-Roman, & Blanco-González, 2013)
<b>Narrative Legitimacy</b>	Based on situating the action within a relevant or accepted storytelling framework	(Thurlow & Helms Mills, 2015)

<b>Scientific legitimacy</b>	Knowledge becomes legitimate because it is generated and certified through scientific reasoning procedures	(Montenegro de Wit & Iles, 2016)
<b>Policy legitimacy</b>	Meeting the demands and reasoning procedures of legislative and government institutions	
<b>Legal legitimacy</b>	Based on legal standards and judicial reasoning	
<b>Practical legitimacy</b>	Being tested in everyday practices and experiences	
<b>Civic legitimacy</b>	Based on the criteria and demands of social movements, citizens, and civil societies	
<b>Economic legitimacy</b>	Based on meeting economic tests, such as generating monetary revenues	

### ***Legitimacy – ‘context’ and ‘time’***

The final two replaceable parts of my heuristic set the parameters for all the others and, along with collective coherence, set up the boundaries and rules within which the legitimacy system operates. So, using an example from my project I could state that:

the core A2J2 project team [target], sought and was sometimes granted multiple legitimacies [content] by various political, policy and academic entities [evaluators] in the Attorney General’s project [multiple layered context] during and after 2013 [time].

The political context constrained who would be legitimately involved in the project. A quite different contextual layer was my role as a researcher embedded in the project. This brought an academic and university context into the public service and created issues of legitimacy for many people (see Chapter 6 on organisational culture).

Time, the final replaceable part, appears quite straightforward. However, this is a bit deceptive, as it can ignore all the streams and rhythms of time that were operating during this chronological period. Groups have different concepts of what is a legitimate timescale (Schein, 2010). For example, on reflecting on spending a year on the project, some of the participants considered this not only legitimate but best practice. For others it was a ‘luxury’ that could not be justified.

## ***The process of gaining legitimacy***

The process of gaining legitimacy is considered in much of the literature to result from the passing of a number of "credibility tests" in "multiple arenas", "creating a web of legitimation founded on these multiple overlapping bases of legitimacy". This is also known as *thick legitimacy*, (Montenegro de Wit & Iles, 2016, p. 1). These credibility tests are set up by the various institutions dominant in society, so that "what counts as legitimate is contingent on the norms and standards of science, civil society, and politics of the day" (p. 19).

This approach would resonate with the thinking of many of the participants in the project. Since the participants desired that their report be taken seriously, they sought to meet, and exceed, the standard expectations for a policy project's structure, process, content, and output. This was done through multiple "reinforcing paths, distinguished by their underlying processes of change and appeals to bases of legitimacy" (p. 12), details of which are described throughout this thesis. It didn't work because of a fundamental flaw in this approach to gaining legitimacy.

This flaw is found in the assumption that people are operating in a single common world. McCarthy (2013) has noted (on a similar topic): "its assumption that there is a 'we' with a common, 'collective self-interest'" (McCarthy, 2013, p. 307). Thick legitimacy assumes a singular, if non-level, playing field that can be dealt with through playing harder within the rules.

This argument is similar to those made in support of 'the scientific method', as discussed in Chapter 5 in relation to paradigms, and it suffers from the same weaknesses. Consequently, it will suffice here to highlight a few key points.

*Thick legitimacy* assumes a single *world* within which actors vary on specifics, but are utilising and agreeing on the same systems and worldview.

Counter to this, I am convinced by the arguments of Kuhn (1962) and others that the incommensurability between a hegemonic paradigm (collective coherence) and a new, yet to be legitimised one, will make it difficult for the newcomer to do anything but fail in the eyes of the 'hegemonic' (Langman, 2015) collective coherence.

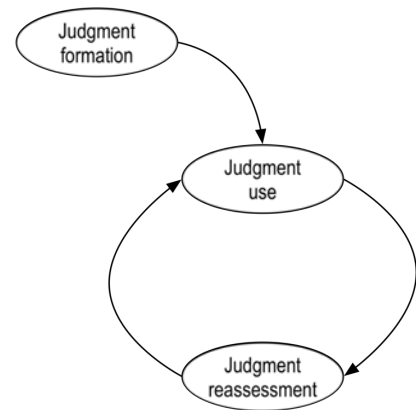
Therefore, I propose an alternative idea, *coherent legitimacy*, built upon the work of Tost (2011) on legitimacy judgments.

## ***Legitimacy judgments***

This section draws primarily from two articles by Tost (2011) and Tost, Gino, and Larrick (2012). In the first, Tost builds a three-stage model of the legitimacy judgment cycle, an adaption of which is shown in Figure 26.

**Figure 26. *The legitimacy judgment cycle (adapted from Tost, 2011, p. 694)***

In the first stage, Judgment formation, evaluations of the target may be passive (tacit) or active, but both lead to a stable, 'generalised legitimacy judgment' that considers the target as legitimate or illegitimate **for its social context**. People usually develop their position from early in life as part of what has been called their 'formative context' (Rostis, 2010).



In the second stage, the generalised legitimacy judgment “acts as an anchor that guides interpretations of new legitimacy-relevant experiences such that new information is viewed as consistent with the existing generalized legitimacy judgment” (Tost, 2011, p. 697). This *use of judgment* means that decisions will be made tacitly unless something ‘jolts’ the evaluator to reassess. This creates a basic inertia in people’s perception of the target so that:

to the extent that an entity is viewed as legitimate, it is supported, and attempts to change it are resisted; on the other hand, to the extent that an entity is viewed as illegitimate, people actively seek to change it (p. 697).

This inertia can be further reinforced by the relationship of the evaluator to the group with which the target is associated. If an individual evaluator’s identity is closely connected to the group’s identity, their position on the target’s legitimacy will be more solid and unquestioned. To overcome this inertia, evaluators need to be ‘jolted’ out of their passive response to general legitimacy, which is equivalent to

Kuhn's position on the beginnings of a paradigm shift. Tost (2011) draws on research that has identified a "neural alarm system that appears to switch individuals between passive and active judgment processes, [and] is activated when the potential for errors in judgments or outcomes is perceived to be high" (p. 700).

This process aligns with my triple loop model of responding to incoherence (Core Visual Heuristic E.1). When 'incoherence is detected' the person moves on to an evaluation of the 'level of incoherence'. In this case, attempts at 'accretion' through assimilation (loop 1) will create too much dissonance and therefore a person is forced to consider loops 2 or 3. This aligns with Tost's model where the jolt leads to the third stage of the model, where evaluators engage in active reassessment of the legitimacy of the target. With this process providing a foundation, I turn to my new and similar concept of *coherent legitimacy*.

## **Coherent legitimacy and anchor points**

I view coherent legitimacy as a natural outworking of my concept of collective coherence. I start with the basic assumption that different collective coherences are, as it were, not playing with the same rules, or even on the same field. Rather, each collective coherence is a competing alternative whole that changes the anchor points involved and rearranges the elements and the relationships between them.

The legitimacy of the hegemonic collective coherence, therefore, is not based on a system of meritocracy, but rather through matching the expected specific arrangements of its anchor points and elements. This includes conceptions of winning, which can be totally incommensurable with non-hegemonic collective coherences.

This places me firmly in the camp of those authors who hold to concepts of cultural hegemony such as Chomsky (2002, 2004) and those following the thinking of Antonio Gramsci (1891-1937) such as Drăgulin (2013); Langman (2015); and McCarthy (2013). It also provides an explanation for why scientists have been so frustrated and unsuccessful in challenging their sceptics' arguments, as acknowledged in comments such as the following:

For almost 40 years I had the naive view that if we simply obtain more physical understanding of the issue, we could provide ‘the’ answers and responses would be rational. I now see that there is absolutely no guarantee of this. It is ourselves we do not understand. (Atmospheric scientist Graeme Pearman, 17 February 2009, as quoted in (Taylor, 2014, p. 1).

To shift metaphors, the deck is stacked against any who challenge the hegemonic collective coherence because:

the representatives of these interests [the hegemonic] have important agendas and principles that they want to advance, and they are well positioned to shape and constrain ... policy. This is not normally accomplished by crude intervention, but by the selection of right-thinking personnel and by the ... internalization of priorities and definitions ... that conform to the institution’s policy (Chomsky, 2002, p. xi).

This leads me back to Kuhn, who recognised that ‘normal science’ is merely a single loop process of accretion. To move beyond a dominant paradigm requires a transformation process of revolution.

So how can a new team of multiple collective coherences build support for its legitimacy? A few recent articles provide some suggestions. The first requires exposure to “mechanisms in the formation of ‘common sense’” (McCarthy, 2013, p. 308). The paradigmatic, incommensurable nature of the hegemonic coherence needs to be uncovered and made explicit. In other words, challengers need to state clearly that they are not playing the same game or on the same field. Related to this is the need to recognise that in any institutional or organisational change there are multiple legitimacy narratives operating (Landau, Drori, & Terjesen, 2014).

Finally, teams seeking to develop transcoherence need to develop new ways for “making the truth stick and myths fade” (N. Schwarz, Newman, & Leach, 2016). They suggest tapping into five areas of evaluation and the associated questions that people ask tacitly as they consider the legitimacy of a claim (p. 87). My adaptation of their list is as follows:

1. Social consensus: Do others believe it and does it seem familiar?
2. Support: Is there much supporting evidence and is it easy to recall?
3. Consistency: Is it compatible with my collective coherence, or does it feel right?
4. Coherence: Does it tell a good story that flows smoothly?
5. Credibility: Does it come from a source that seems familiar and trustworthy?

## ***Conclusion***

There are many versions of legitimacy in the literature, most of which assume that we operate in a mono-world. To move beyond this approach, I have developed the idea of coherent legitimacy, founded on Tost's work on legitimacy judgments. This new approach makes sense of the problems encountered by the A2J2 Core Team in trying to gain legitimacy from different stakeholders. It can also be linked to my model for tackling incoherence (Core Visual Heuristic E.1) as a method for developing transcoherence in a bid to make a new heterogenous team aware of its legitimacy issues.



## Chapter 5: Opposing Paradigms

Although personality clashes were the most commonly attributed form of collision between participants, other types of conflict/collision occurred concurrently throughout the project. Significant amongst them were heated disagreements over what constituted ‘quality research’. Given that the teams in the project were formed with a range of expertise all focused on tackling the same wicked problem, it wasn’t surprising that disciplinary conflicts emerged. Yet the experience in these moments was not of explicit disagreement between professionals but a mostly tacit, gut level reaction to a perceived transgression of basic, valid research processes or tools. I consider these to be collisions of ‘paradigms’, following on from Kuhn’s (1962, p. 149) usage but with a recognition of how his concept was built on by later authors.

To introduce this chapter, I have selected three critical moments that display the variety of these ‘paradigm’ collisions. Each involve a different subgroup in the project, although some participants appear multiple times. The criterion for this selection of moments is once again the relevance to this research: a collision of collective coherences.

### ***5.1 Critical Moments***

The first critical moment occurred in mid-February 2013 at a meeting of the Core Team, including Catherine and myself. Significantly, the team had no manager immediately responsible for them at this time. The meeting had been instigated by the team to discuss the project scope.

The meeting was friendly but a bit tense. Team members asked for clarification on the process and outputs of the project. Catherine outlined how a wicked problem required a different approach to a research-based project and therefore they would have to be willing to work in less familiar ways. The team members questioned in detail how this would look and work. Catherine’s responses sent them all into a tailspin of confusion and frustration, with Hermione leading the way. Each explanation from Catherine sparked more angst and anger. I was getting more and more

meaningful looks from both Catherine and the team members, clearly looking for me to translate and sort out the confusion.

I felt the need to talk with the team without Catherine and was given the chance when she was called away to deal with other emergencies. Using the emotional dependency of the group as an access point, I asked what was bothering them so much. They all agreed that they felt they were being asked to produce 'crap' and the project discussion paper would be 'bullshit'. We explored this in detail. Their thinking appeared to go like this:

1. We all produce quality work.
2. Quality work has rigour, and is thorough, coherent, and practical.
3. A quality document is well planned. You plan at the start and then fill in the skeleton.
4. The scope of this project is so broad that it will be impossible to be thorough.
5. The scope is so vague it is impossible to be coherent.
6. The ideas are so fuzzy there is no rigour.
7. The ideas are so off with the pixies that they won't be taken seriously.
8. Therefore, what we are being asked to do is compromise on quality and expertise,
9. which will lead to crap output and nothing will come out of it.

We agreed to sleep on it. The following morning Catherine asked if she still had a team. She was well aware there was a problem but not why it was happening and was happy to let me chat with the team to attempt to resolve it.

The setting for the second of these critical moments was a few weeks later at a formal presentation of the findings of 'the largest survey of legal need in the world' in late February 2013. The event was open to all of the Department, other federal government agencies, and interested parties.

Hermione was bubbling with excitement as her colleagues would be presenting the findings of their massive piece of research. As we walked across the road to the venue she listed her friends' many qualifications and qualities and assured us that this would be a very worthwhile presentation.

The large meeting space was crowded with close to a hundred people and, since the invitation had gone out to multiple departments, there were many unfamiliar faces. I sat about a third of the way back with other members of the team, enjoying the buzz of anticipation that infected the room.

The PowerPoint presentation was professional and the presenters were clear and confident in the significance of their work. After about twenty minutes I became troubled by some of the methodological assumptions that were being glossed over, but was still impressed overall. They finished, asking for any questions and comments.

From the back of the room a strongly voiced, and seemingly angry, man stated that he couldn't see why they considered this good research when it was completely invalid, having no control group or double-blind procedure in place. He finished his comments by stating "you can't make the claims your making about the findings you have". This was met with silence broken by a few embarrassed chuckles before the main presenter briefly outlined their research method, comparing it with similar pieces of research. The question time then moved on and discussed details of the findings.

Afterward I spoke at length to the chap who had slammed the research and he was even more scathing of the process, claiming that in his field of medicine the results would be considered meaningless. I was struck by how angry and horrified he was toward the researchers involved and how black and white he felt the issue was.

The third critical moment occurred at the very end of April during a workshop with a specialist group of researchers (TACSI) who use a 'rapid ethnographic' methodology. Those present included members of the Interdepartmental Collaboration Group and the Core Team, including Catherine, Amber, and myself.

The research team had just finished their introductory presentation, outlining their approach and significant successes. I was captivated by the professional, innovative and interesting way they had set up their research and looked across the table at Hermione to gauge her response. I was shocked, she was slouched deeply in her chair, rolling her eyes and shaking her head. As I watched, she commented loudly, "So what, now we have policy development by anecdote?" The researchers looked stunned by this cutting putdown, and a heated discussion on valid research methodologies ensued. At the next break Catherine suggested Hermione need not stay and

could get on with other work. She then privately commented to me how angry and embarrassed she was at the incredibly hostile, insulting and childish response Hermione had made to the visiting researchers.

The second half of the workshop continued with an underlying ongoing sense of friction and negative comment around the nature of the type of research being proposed. After the workshop I chatted with the presenters and they acknowledged that they often encountered open hostility to their work from members of the public service. I found this surprising given that they came highly recommended by people I greatly respected.

These three moments highlight some common characteristics as well as interesting differences. Each involved extremely strong negative reactions to research approaches that were seen as both normal and of high quality by those proposing them. The attackers were openly abusive, hostile, and surprised that there was not universal agreement on how unacceptable the presented methodology was.

Throughout the project there were numerous other similar but smaller occasions of conflicting interactions between different approaches to research. To varying degrees all these interactions impacted negatively on the collaboration within the project, but in a few cases the events were able to be used to develop insights into deeply held beliefs about research. The following section explores in detail how these interactions were perceived by those involved.

## ***5.2 The weft - the world according to the participants***

So again I ask the same questions as in previous chapters: was there a collision, and if so, was it between different collective coherences? This time, the short answer to both is definitely 'yes', but only in retrospect. All of the collisions resulted from a disconnect between participants' tacit expectations of disciplinary research excellence compared with what is required of transdisciplinary research associated with a wicked problem.

The reaction to these collisions was immediate and strong, but those involved did not generally want to explore the underlying reasons for them. My role as process facilitator was constrained by this attitude, but I was able to work some of the way

along the action research wave introduced in Chapter 2. Indeed, the weft in this chapter maps onto three stages of progression along the wave: immediate collision as a *trigger*, then *exploration*, and *analysis*.

### 5.2.1 Immediate and explicit nature of the collision as a trigger

Each collision was a sudden public conflict that appeared to come out of nowhere, shocking many of the observers. The contexts for the conflicts differed slightly, including formal and semi-formal presentations of research proposals or findings, project scoping meetings, and semi-formal Core Team discussions. Figure 27 graphically represents the collisions from the perspective of the attacker. In each case the trigger was similar: a colleague (the ‘victim’) presenting an approach towards research that was seen as heresy and almost criminal by those who took on the role of ‘attacker’. ‘Proper research’ was perceived to be threatened by some form of intolerable ‘inadequate research’.

The attackers did not see the collisions around disciplinary research as clashes between equal but different paradigms. Rather, they wrote off the methodological differences of the alternate worlds of expertise of others as incompetence, ignorance (Smithson, 1991), or stupidity.

**Figure 27. *The collision from the perspective of the attacker.***



So the roles in the collisions were asymmetrical, with each case having an attacker/inquisitor/protector initiating an explicit public declaration and a victim/heretic/transgressor responding. (I have deliberately chosen labels for these roles that reflect the emotional element in the interactions of the collisions.) The

'attacker' in general took the high professional ground, judging their peer and finding them guilty.

Finally, to me the attacks had strong, religious-like overtones as though dealing with unrepentant heretics. Each attack was designed to expose the unforgivable nature of the victim's disregard for acceptable 'proper research', and create an environment where the victim needed to confess and repent their heresy, and then publicly renounce their position. If there was no repentance, the attacker had still protected the public through the exposure.

### **Immediate consequences**

In each case it seemed that the attackers were expecting support from others in the room and some form of acquiescence from the victim. Yet in every case the victim stuck to their position and did not relent, quietly fragmenting the group along paradigmatic faultlines. Generally, no-one publicly challenged the attacker. Instead there was an embarrassed silence and then an attempt to 'get on with it'. Consequently, the underlying causes for most of these collisions were not addressed and no further process for restoring the collaboration was attempted. It was as if a big stone had been thrown into a pond and then everyone waited till the ripples stopped.

In a few cases there were additional consequences. The Core Team discussion described in the first critical moment, shows that I was given permission by them and Catherine to explore further the underlying reasons for their concerns. This allowed them to vent and then consider why they had reacted so strongly. For her part, Catherine considered the team's reaction a natural consequence of trying to come to grips with a project looking at a wicked problem.

In the second moment, the incident was ignored by most people, as was the attacker. I was given the freedom to talk with him and later, when the project team met with Hermione's colleagues, I mentioned the concerns he had expressed. The almost universal response was that the guy was a bit of a 'nutter', who didn't understand legal research. The issue was quickly dropped and the group moved onto other things.

## 5.2.2 Exploration of the reasons for the collision

In those cases where I was able to dig deeper, I wanted to know **what** had caused such a strong reaction and then **why** the response was so vitriolic. Upon reflection, I conceived each attack as a reaction to a perceived threat. This threat appeared to be against the coherence of the whole research process, and in particular, a transgression related to an anchor point of the collective research coherence.

A summary of key conflicts is set out in Table 13. The attacks were mostly general, derogatory broadsides about the other person's research. The remarks made (Column 3) imply a comparison to an unstated ideal of proper research. The attack is justified because the research is abnormal (bizarre, marketing, anecdote) or sub-standard (inadequate, sloppy, lacking).

**Table 13. Origin of the negative comments in paradigm collisions**

	<i>Attacker</i>	<i>Victim</i>	<i>Remark made</i>
1	Core team, legal policy academic	Rapid ethnographer	'Policy development by anecdote' 'I don't think they are doing anything new'; 'It's research 'lite' and won't add value' 'Not adequate to the task' 'Won't be able to be integrated'
2	Core team, legal policy academic	Collaboration researcher	'It's a bizarre project'
3	Medical - public servant	Legal policy academic	'Can't make the claims you're making about the findings you have ... the results are meaningless'
4	Core team members	External legal academic	'The research is sloppy and does not tell us anything'
5	Core team members (mostly legal)	Wicked problem research project leader	'Being asked to produce crap' Lack of rigour, not thorough Incoherent Scope too broad & vague Lack of planning
6	Economist - public servant	Academic head of Nudge research	Nudge research is 'just a form of marketing'
7	Senior executive	The project leader	A 'blancmange' of research findings
8	Interns	The project leader	A lack of 'research scope & direction'
9	Core team, legal policy academic	Rapid ethnographer	There's a right way to do things This is the process A body of evidence and emerging over decades
10	Core team member	Rapid ethnography research	Not doing research, sounds dodgy No numbers, Sample size too small Will only produce a human interest story

Who made which remarks is itself illuminating<sup>45</sup> and who attacked whom reveals a perceived form of hierarchy between the disciplines. At the top, 'objective', 'hard sciences' attacked and looked down on everyone else, whereas legal experts tried to justify themselves upwards to the sciences but looked down on the 'subjective' 'social researcher' that resided at the bottom. This would seem to indicate that the conflict comes from collisions of alternate disciplinary methodologies. Further analysis however, uncovered a more confusing and contradictory set of reasons.

## **Research project management**

Some of the critical moments clearly identify the conflicts as relating to process issues in relation to research projects. A traditional project management structure was usually offered as the correct way to approach the problem. This was in spite of the fact that every aspect of this research project was predicated on the belief that a transdisciplinary approach was required to tackle the wicked problem under review.

Concerns with the scope of the project continued to emerge throughout its course, with complaints made that the scope was too broad, too vague, inadequate, and lacking. A few members of the Working Group (the immediate governance for the project) offered project templates to help 'fix' the scope problems. In contrast, Arthur, Catherine and to some extent Jerry all spoke of the need for a different project management approach due to the wicked nature of the topic. This included an acceptance of multiple iterations of the research problem and the recognition that significant time was required to address the complexity of the problem.

Along with the project's scope, complaints frequently arose around its direction. This included a demand for a 'clear' and 'definite' idea of what it was meant to achieve and what all the elements of the research should be, such that 'we should know what to expect as our conclusions when we have scoped the project'. A few advocated a different approach, one that took wickedity into account. In their view, the 'unexpected' would 'emerge' during the project. This meant that the conclusions

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<sup>45</sup> See V. A. Brown (2008, pp. 35-37) for a discussion on what the form of ridicule tells us about the instigator.



would not be predictable and that the project may change direction in response to what was discovered.

## **Rigour**

Many of the glimpses into the collisions highlight the primacy of research ‘rigour’. This term was ubiquitous in the language used by participants, particularly the ‘lack of rigour’, when criticising the project. This concept will be discussed in detail in the next section but I raise it here because it was usually raised in an unexplained fashion that assumed a common, shared understanding of the term. Rigour was ‘good’ and a claim of a lack of it was seen as a devastating criticism.

## **Outcomes**

Another underlying reason identified for the conflicts was a concern with the potential outcomes from both the project as a whole and the individual pieces of research that would be utilised as part of the project. What the project should produce as its final product was constantly debated, with traditional ‘reports’ being proposed by many and only a few arguing for something more aligned with the nature of a wicked problem. This was most succinctly stated by the Secretary when he described the draft report as ‘a blancmange of findings’. His comments caused considerable distress to the team.

### **5.2.3 Further analysis of the underlying causes of the collisions**

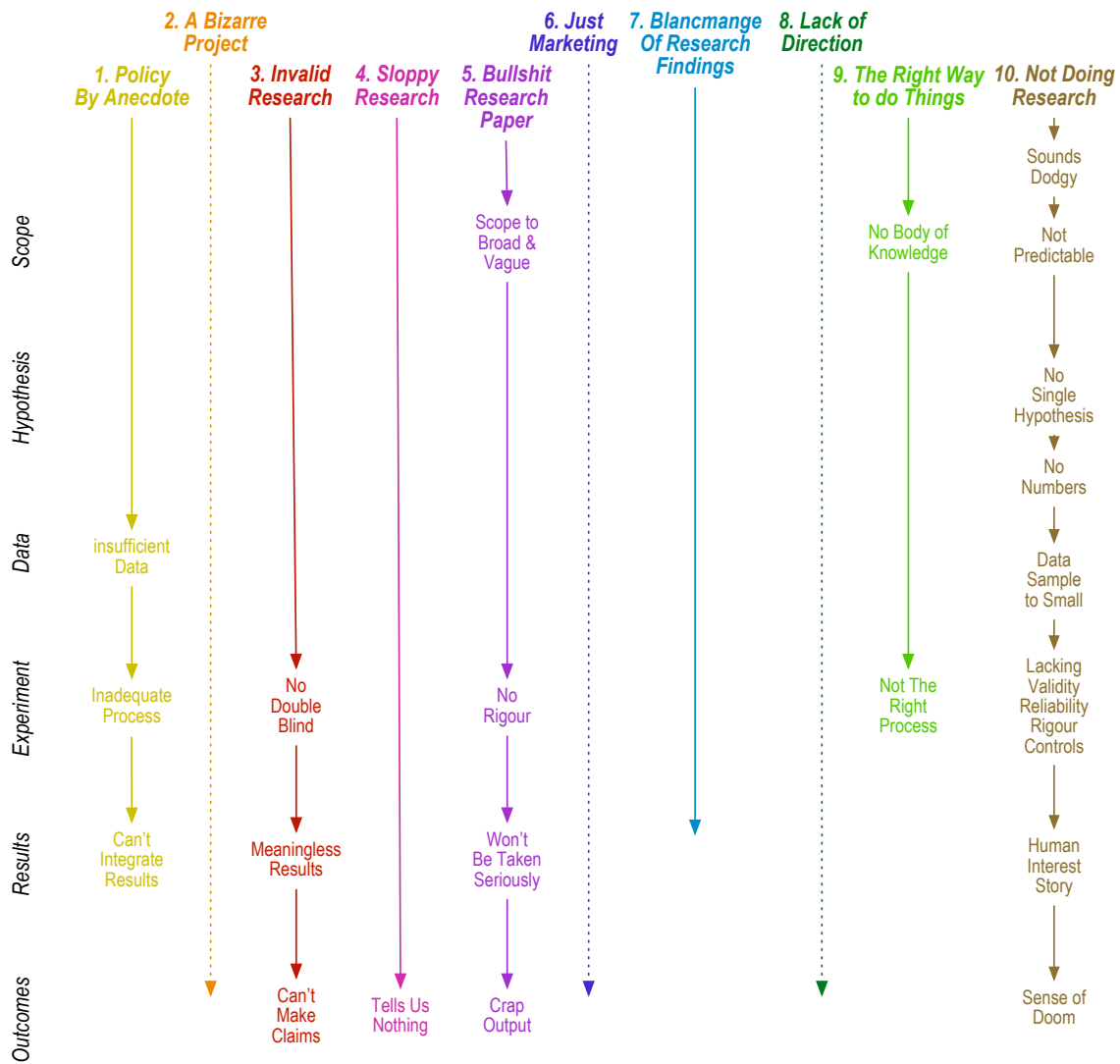
The fragmented glimpses into the underlying thinking that led to the collisions were filled out through dialogue with some of the participants, in both private, informal interactions and interviews. In response to my questions each person gradually explicated an originally tacitly held foundation for their attacks. All the logics were surprisingly similar, with a key anchor point being that acceptable research was best described as some form of ‘the scientific method’ (Woodcock, 2014).

The more detailed information from the interviews can be placed together in a way that demonstrates their coherent relationship with each other. Figure 28 takes the examples from Table 13 and displays them graphically (the numbering is also the

same as in Table 13). The descending lines in the diagram show the linkages between the participant’s remarks (from Table 13) and the reasons they later offered for these (no explanatory information was available for remarks 2, 6, 7, and 8).

A discernible generic approach to research emerged from the combined collection of the reasons, as shown down the left-hand side of the diagram. Each network of linkages has been mapped onto this generic approach. The reasons given range from the general (lacking rigour) through to the specific (no double blind) and each of them provide different fragments of the generic research approach.

**Figure 28. Logic fragments of collision examples from Table 13**



From this diagram I conclude that each participant held a form of the scientific method as central to their reasoning, but my interview with Hawkeye resulted in

probably the clearest and most relevant expression of this. His thinking is linked to Number 10 in both Table 13 and Figure 28. The interview lasted for over an hour and provided a very detailed account of his thinking. I should make clear at this point that he was one of the few without a law degree, being a linguist, and like all the others had been highly successful at university (the importance of this will become clear later in this chapter.)

He began the interview as a strong critic of the *ethnographic methodology* used by TACSI, stating that as they made their presentation he thought, “Oh, this sounds dodgy ... you are not actually doing research” and, “I just had this impending sense of doom”. His reasons for these feelings were that the results from this so-called ‘research’ would not produce anything different from a magazine article. That the final product would be “at best, a well written human-interest story”. As I pushed further, he explained that he thought the data sample and method would produce unsupported generalisations that lacked validity and reliability.

In particular, he believed that the method of data collection would mean the researcher would be “influencing the subjects”. When I asked him what a “good version of research would look like”, he turned to the legal research connected to the project, which was “rigorous”, being “well planned, with a well-thought-out methodology”, and “measurement”. In detail they had “the numbers” and “controls put in place”, going on to say “the numbers would help, just by definition”, “you know, predictability”.

He summed up his preference for the legal research by saying, “It looked like the kind of research that I’m used to, a traditional research approach ... under the heading of quantitative”. He explained that his major at university was ‘experimental’ with lots of ‘statistical analysis’, and agreed that his understanding of the scientific method had been learned “a long time ago” and become “embedded, like intellectual DNA”. He then remembered an old adage from his ‘uni’ days: **“The things you can place under a microscope you place under a microscope. The things you can’t place under a microscope you leave to art”**.

In comparing the two research approaches, Hawkeye resolved his disquiet over TACSI’s approach by relabeling it as an “initial exploration, not research”. He went

on to explain that it was like some anthropology he had done at university which also “irked me slightly, but I have sort of compartmentalised it”. And further, “I never had to use anthropology”, and had “effectively treated it like a newspaper article”.

A few team members were aware of multiple research methodologies even if they still presented a more traditional scientific method when asked to explain what good research was. Penfold was ambivalent to TACSI, chatting with both Hermione and Hawkeye in an attempt to understand their very strong responses. He told me that he “did not have a thorough research background”, whereas for other team members “it goes against everything they’ve been taught is thorough, rigorous research.” He dealt with the “seeming contradiction” between the Law Review’s survey (critical moment 2) and TACSI by reconceptualising them as both on a single spectrum of research, ranging from TACSI’s very specific but deep approach to the Law Review’s very general but shallow one. Together they provide a “balance” and should complement each other. He then explained that this was essential because if they were contradictory there would be an “anomaly in the data and the findings ... and we would need to reconcile that before we could come up with a solution [for the project]”.

Jerry also recognised two competing types of research, noting that those attacking TACSI were really “quantitative researchers attacking qualitative ones”. Reflecting on legal thinking about problems, Amber observed that “there’s a natural way for people who’ve been trained that way”. This importance of training was most succinctly expressed by Hermione:

I come at it from a background where there is the right way to do things, this is the process, and the process has arisen from a body of evidence and emerging over decades, and that that’s why we adopted this process.

As our resident content researcher, Hermione was very vocal about her views on other researchers. She was very positive about the legal review team (critical moment 2) because “they’re all researchers, so they do have a degree of integrity and a scientific approach and all that sort of stuff”. In her interviews Hermione was one of only a few to recognise the existence of multiple types of research, which had me asking why she was so anti-TACSI. She explained that she came to “this sort of

stuff with my own prejudices ... I am not as open minded as I could be". In particular she thought that TACSI were not doing ethnography "properly", "it's ethnography lite". She agreed that in her view there are "clear methodological streams, each with their own built-up body of evidence and set of rules, if you like, and how it works" and that she had a strong "personal academic ethic". She saw part of her role on the project as "making sure we are not commissioning people to do shit". Reflecting on other academics she knew and had spoken to, she commented that they "don't understand it [the project]".

The interns, still at university, noted the difference between what was expected from them by 'academia' versus the broader approach they were being asked to adopt for the project.

In summary, each case of conflict resulted from a tacit assumption of a singular, universal, decontextualised, and coherent concept of what is quality research practice. Therefore, the conflicts were not perceived as collisions of alternative disciplinary methodologies but as **transgressions of accepted practice**. All of the participants appeared to be unaware of the different underpinning research ontologies, epistemologies, and methodologies of each of the different types of research.

### ***5.3 The warp – paradigms and disciplines***

The theoretical lens I have chosen for this chapter's warp is Kuhn's concept of 'paradigms'<sup>46</sup>. It neatly meets my selection criteria in two ways. First, Kuhn was "a physicist who became a historian for philosophical purposes" (Gattei, 2008, p. x), with a primary focus on the historical development of natural science. This presents a nice multi-disciplinary position for the chapter.

Second, Kuhn's thinking is highly relevant to, and provides insights into, the critical moments in this chapter's weft. Some of his key concepts help to make sense of what occurred and why; that is, 'incommensurability' between competing groups cohering around 'paradigms' of what acceptable research should look like. There

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<sup>46</sup> See section 5.3.2 below for a full description of Kuhnian paradigms.

was also the strong normative emphasis from the attackers on the proper use of the term, 'the scientific method'. In the same way that MBTI can stand as an exemplar of personality type theory, Kuhn's use of 'paradigm' provides an excellent exemplar of the 'new philosophy of science' of the 1950s and 60s (Gattei, 2008, p. 9).

'Paradigm' was a relatively familiar term to many of the project participants and was used frequently, particularly about research, although people differed as to exactly what they meant by it. For me, the introduction to Kuhn's work during my undergraduate study of the philosophy of science prepared me to catch glimpses of his concepts in what occurred during the critical moments.

Consequently, I initially constructed this chapter with the view of using Kuhn as the basis for the theoretical construct that would act as an explanatory lens on the data described in the weft. However, during the process of reviewing the data and rereading Kuhn's work, I found that the lived experience I had captured in the weft did not fit as comfortably as I first thought within my understanding of Kuhn's collection of concepts. My questions had become more complicated than when I first began to write. I still want to know what theory will best explain what occurred in the collisions and why, but the weft has also thrown up further questions.

If the conflicts presented are the result of collisions of multiple disciplinary methodologies, why did everyone only lay claim to 'the scientific method'? This is particularly intriguing considering only a couple were 'hard' scientists, most being lawyers, and a few social scientists by training. Following on from this, why, if it were generally agreed that they were using 'the scientific method', was there such anger and conflict over small, specific differences in their research methods? Finally, if everyone was on board with the need for a transdisciplinary approach to the project, why was there such little tolerance for different forms of research?

Therefore, although I will still utilise a number of Kuhn's key concepts in a foundational manner, this section will introduce theory from a number of additional authors to round out the warp for the chapter.

### 5.3.1 Why ‘the scientific method’?

I think it will be helpful to first clarify those questions related to the scientific method. First, why did participants from multiple disciplines all defer to the scientific method? There are at least three main threads that together go towards answering this:

- Linkages between law and science (Jasanoff, 1995), in particular the influence on early-modern science by prevailing legal practice (Buning, 2014)
- The retreat to naive and scholastic forms of knowledge
- The hegemonic position of ‘hard science’ both in research and teaching about research, and the consequent use of ‘the scientific method’ in introductory texts and courses on science.

#### Links between law and science

Building on the work of Shapiro (1994), Buning (2014) has identified that early modern science utilised and built on a number of contemporary legal concepts and processes. Around the early 1500s, medieval ‘irrational’ legal proofs were replaced by “rational inquiry and the critical sifting of evidence” (Shapiro, 1994, p. 228). This included a new legal idea of ‘facts’ which was then adopted by the ‘inventor scientists’ of the time (Shapiro, 1994). Buning (2014) further contends that “early-modern science can only be understood by reconnecting some aspects of an emergent ‘scientific method’ to the economic and legal contexts that were foundational for them” Buning (p. 59).

The contemporary legal ‘privilege’ method for assessing evidence and identifying proof was forced on inventors by the authorities who

would grant the inventor a limited amount of time (usually about one year) to crystalize his ideas, or else his **privilege rights** would expire. This formula allowed the inventor to seek investors, who were prepared to put in the money to realize the invention in exchange for a percentage of the profit that could be made on the basis of the future monopoly rights ... The method that these early-modern ‘patent offices’ applied to test privilege applications also closely resembled the method that was later used to test theories about natural phenomena. (Buning, 2014, p. 60)

The process and types of evidence the inventor required to prove what he needed for his privilege would become the 'method' for future science. Thus the law and science came to share an underlying 'rational' and 'objective', 'positivist vision' of 'truth seeking' (Jasanoff, 1995, p. 47). I will return to the importance of the positivist philosophical stance throughout this thesis.

Tracing the rise of this nascent positivist stance of early science is beyond the scope of this thesis. For my purposes, I am only interested in the amplification of objective, rational methods by the interactions between science and law that required 'certainty' from scientists, particularly in court. This led the judiciary in the USA to set out four criteria for evaluating scientific evidence (Jasanoff, 1995, p. 63):

1. The theory or technique underlying the evidence must have been tested and is falsifiable.
2. The evidence has been peer reviewed.
3. The technique's error rate is known.
4. The technique has general acceptance among the scientific community.

These criteria align best with the methods and processes of the 'hard sciences' and this has been one of a number of reasons for the hegemonic dominance of this form of science over other forms of research. So there is a historical basis for referring to the scientific method. But there was also a psychological one.

### **The retreat to naive and scholastic forms of knowledge**

There are many developmental theories of learning in psychology, the most relevant for my purpose here being found in the work of the educationalist Howard Gardner (1991) who contends that there are three broad stages of learning:

1. The unschooled or naive learner
2. The traditional student or scholastic learner
3. The disciplinary expert.

Stage 1 relates to the natural drive young humans have to make sense of the world through producing "serviceable theories of the physical world" (H. Gardner, 1991, p. 6). The coherent structures that are formed in this stage are resilient and relied on in later life. Stage 2 relates to the formal teaching that comes with our education systems. This primarily involves mimicry and the ability to conform to the expected



norms of the system. Often the formal learning does not replace invalid naive concepts but coexists tacitly. Stage 3 relates to those who have mastered a discipline and are able to “apply such knowledge appropriately in new situations” (H. Gardner, 1991, p. 7). At this level the ‘expert’ becomes comfortable in recognising and understanding their own assumptions, the limitations of those assumptions, and where to draw on other areas of expertise. A person may be seen as highly successful in formal learning without having reached mastery of a discipline.

The transitions between each stage are not smooth or natural but require significant restructuring of a person’s “world and to accept the disciplinary and epistemological constraints that have come to operate in the [discipline] over the years” (H. Gardner, 1991, p. 8). This results in gaps between the stages and means many university graduates have “fallen back on the powerful but naive understandings of early childhood” (H. Gardner, 1991, p. 10).

This is the relevant point for understanding what appears to be happening here with the use of ‘the scientific method’. Almost all of those interviewed made comments such as “I was taught ...”, but when pressed few had actually studied research methodology. Instead they were drawing on high school science or introductory university approaches to experiments and testing that promoted a more general ‘method’ to research.

### **The hegemony of hard science and the scientific method**

My final explanation for why participants deferred to the scientific method is the hegemonic role of hard science in research. The methods and instruments used in the hard sciences are often seen as being the only form of valid research and what constitutes ‘the scientific method’. At its broadest, ‘the scientific method’ has been used to refer variously to “all of the activities that scientists do as scientists” (Woodcock, 2014, p. 2070); “a working model for how to arrive at truth claims through the use of an experimental method” (Buning, 2014); and “the means by which ‘advances occur’ in science, and the use of which is required for funding and publication in quality journals”<sup>47</sup> (Castillo, 2013). Some argue that if the ultimate

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<sup>47</sup> A quick review of the criteria for acceptance in most ‘scientific’ journals shows a heavy reliance on the so-called scientific method.

utility of science is the comprehension of reality, then a unique and universal method is required for acquiring new scientific knowledge (Wagensberg, 2014).

In keeping with these broad descriptions, the use of the definite article ‘the’ indicates that there is only one ‘single’, ‘unique method’ (Woodcock, 2014) that is ‘universal’ (Wagensberg, 2014). The reason for use of the word ‘method’ also becomes clear: method “is central to science” and “suggests the efficient, systematic ordering of inquiry” (Haig, 2010). It involves “the step-by-step procedures for the production of knowledge” (O’Leary, 2007) or “a sequence of actions to achieve one or more research goals” (Haig, 2010).

Phrases of this kind are frequently found in popular and introductory accounts of science (Woodcock, 2014). This aligns also with my own personal experience, being clearly stated in the biology textbook that was the basis for study when I sat for the NSW Higher School Certificate.

So what does this ‘scientific method’ look like in more detail? Figure 29 is a representation of what the steps of ‘the method’ might look like if the various fragmentary comments by the participants were combined. It shows a funnel that relates to a series of activities that filter information and data, eventually leading to a specific, narrow, and relevant outcome. Using this funnel will apparently result in ‘rigorous’, ‘reliable’, and ‘valid’ research.

**Figure 29.** *The combined participant ‘scientific method’ template*



This conception is similar to what appears in many high school science books, except for the first step, which traditionally includes something about identifying either a relevant theory (O'Leary, 2007) or, through observation, a relevant problem (Wagensberg, 2014). The context of conducting a project, with a given purpose, could explain this difference.

So does this demonstrate a singular method by which research can be assessed? If so, it would help to explain why everyone in the project lay claim to 'the scientific method', with any differences attributed merely to the dropping of a particular element or step. But this does not explain why the attacks were so vociferous.

At this point there emerges the first of a number of concerns I have with both my own data and the literature. When looking in detail for the 'proper' steps in the scientific method, there is no consensus. None. Among all the proponents of 'the scientific method' there is disagreement on virtually everything it entails. The number of steps in the process differs, starting from four or five (O'Leary, 2007) and going up to as many as eleven (Woodcock, 2014). The starting and end points are also different, with 'making observations' or 'recognising a problem' the two most popular first steps (Woodcock, 2014). Neither is there any consensus on what specific tools or processes are essential. This has led some authors to conclude that the 'idea of 'the scientific method is a myth' (R. A. Brown & Kumar, 2013; Lacey, 2007; Woodcock, 2014).

For another group of authors, these differences are seen as reflecting the different forms of scientific logic that provide a basis for the specific steps in a method (Nola & Sankey, 2014). This takes the debate a little deeper, with up to five forms of logical reasoning identified: deduction, induction, abduction, bayesianism and coherence (Haig, 2010). Many texts find only one of these forms acceptable, usually either deduction or induction, tracing the origins and development of the scientific method through particular historical figures that reflect their own position, such as Aristotle, Francis Bacon, John Stuart Mill, Isaac Newton, Charles Sanders Pierce, and Karl Popper (Kronz & Jacquart, 2012; Woodcock, 2014).

Others combine induction and deduction by placing them at different stages in the process. Abduction, although not as popular, is seen by a few authors as an essential

addition to the mix because of its role in creativity, making it a key element in the development of a hypothesis. In more recent history, the use of probability in the Bayesian approach has been used for theory evaluation (Haig, 2010). Finally, a coherentist view of knowledge justification, specifically the ‘inference to the best explanation’ attempts to provide a more holistic approach, that can take into account ‘qualitative’ elements of research (Haig, 2010). Paul Thagard (2002), to whom I referred in *Interlude: Clarifying Collective Coherence*, developed seven principles essential for establishing valid theory. These contradictory positions support the claim that there is no one scientific method. Therefore, to understand the collisions in this chapter, we need a better theoretical framework.

### 5.3.2 Kuhn: paradigms, incommensurability, and normal science

The ideas of Thomas Kuhn can provide a better explanatory lens for understanding the responses of participants to differences in research methods. His multifaceted concept of *paradigms* fits snugly in my overarching concept of collective coherence, while his related concepts of *normal science* and *incommensurability* enable an explanation for the heat and vitriol experienced in those collisions.

Kuhn developed his ideas in a particular historical context in which many people were involved in debates about specific philosophical and social issues. Space does not permit me to engage in a full history of the philosophy of science<sup>48</sup>, but I will put forward a brief overview to set the scene for Kuhn’s work.

He was a part of what has been seen as the second epistemological revolution in science thinking during the twentieth century (Gattei, 2008, p. 1). The first, in the 1920s, led to the ascendancy of logical positivism, “aimed at reestablishing science in its role as reliable knowledge” (Gattei, 2008, p. 1). The second, in the 1960s, was linked to a loose collection of authors promoting what was collectively called the “new philosophy of science” (Gattei, 2008, p. 1). This latter revolution has been seen as significant in the undermining of the privileged position science had held since Francis Bacon (Gattei, 2008, p. 1). In the broadest terms this period can be viewed

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<sup>48</sup> For an excellent detailed account of the period in question, see Gattei’s (2008) book, *Thomas Kuhn’s ‘linguistic Turn’ and the Legacy of Logical Empiricism: Incommensurability, Rationality and the Search for Truth*.

as a struggle between the realists and the anti-realists, or between objectivism and subjectivism.

**Figure 30. Excerpt of a research methodology comparison (Moon & Blackman, 2014, p. 3)**

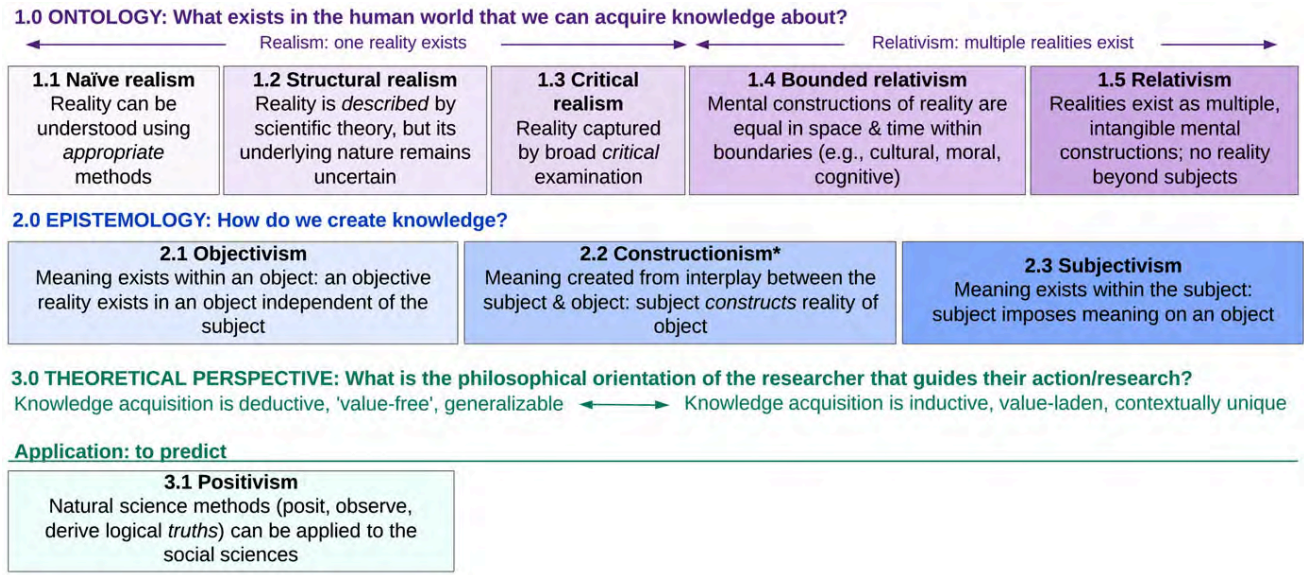


Figure 30 presents a spectrum with a focus on philosophical concepts. Therefore, it functions well as a map for the rest of this chapter. Kuhn was one of many who were tackling a positivist view of reality, the belief that “valid knowledge can be generated only from objective empirical observation experienced through the senses and carried out according to the scientific method” (Moon & Blackman, 2014); that is, that a single *reality* or *world* exists. This relates directly to boxes 1.1 and 1.2. This position fits with the comments from participants and their use of the scientific theory. The vitriol between them still needs to be explained.

A small contextual caveat is required before I discuss Kuhn’s ideas in detail. His seminal work, *The Structure of Scientific Revolutions* (SSR) (1962), had a historical focus, with a primary concern for how science develops over time. He felt the prevailing view of scientific progress, as gradual improvement by the accretion of knowledge through ongoing testing, misrepresented scientific development. In contrast, Kuhn argued that historically there have been long periods of ‘normal science’ punctuated by intense shorter periods of ‘revolutionary science’. In the former, ‘paradigmatic knowledge’ is accumulated until a growing number of anomalies brings the paradigm into question. This then leads to a tumultuous time of revolution until a new paradigm replaces the old.

Therefore, while Kuhn is concerned with a chronological or serial use of different paradigms and associated incommensurability, I am interested in multiple, parallel paradigms that exist at the same time.

## Paradigms

The term paradigm is ubiquitous in the literature of many disciplines, but I want to use it in the form promulgated by Kuhn (1922-1996). This is not as easy as it might first appear. His use of the term has been widely criticized, with one critic describing him “as the man who grabbed on the word ‘paradigm’ and used it as a magic verbal wand to explain everything” (as quoted in Kindi, 2012). He was also not alone in using the term. Earlier authors such as Ludwick Fleck (1896-1961) and Michael Polanyi (1891-1976) influenced Kuhn in the early development of his thinking.

**Fleck** used terms similar in meaning to paradigm, specifically ‘thought style’, ‘thought collective’, and ‘thought communities’ (Babich, 2003). These terms relate to the “‘world’ ... assumed in advance of a particular research tradition ... [Thus] a given scientific thought collective is the perspective within which what is scientifically conceived *can be* conceived as such” (p. 76).

Jacobs (2002) considers Polanyi’s aim was to describe the principles “by which conceptual frameworks that keep their followers’ minds in thrall” (p. 108). Each ‘worldview’ or ‘worldtheory’ also has a linguistic expression that constrains what questions can then be formulated (Jacobs, 2002, pp. 108-109). He considered that individual scientists were attracted to a particular conceptual framework because of ‘tacitly’ held ‘intellectual passions’. This leads to scientific communities that are passionately committed to particular frameworks and ‘antagonistic’ to new or different systems of belief (pp. 110-111), to the extent that scientists in different frameworks “think differently, speak a different language, live in a different world”. The two systems have a logical gap between them. Everyone may live in the same ‘material universe’ but perceptually and cognitively their worlds are different (Polanyi, 1958, p. 151).

A number of Kuhn’s contemporaries were producing somewhat similar ideas. Stephen Toulmin (1961), in the year before SSR was published, spoke of “models

and ideals, principles of regularity and explanatory paradigms". Also, Paul Feyerabend (1924-1994) engaged with Kuhn on many ideas, particularly incommensurability, which will be picked up in the next subsection.

Kuhn himself constantly refined his use of paradigm, both in response to his critics and in the ongoing development of his thinking<sup>49</sup>. In a (1969) postscript to SSR he referred his readers to a 'particularly cogent criticism' of his use of 'paradigm' in the original work. In this critique, Masterman (1969) stated that Kuhn used the word 'paradigm' in at least twenty-one different senses, which she believed fell into three main groups:

1. **A metaphysical paradigm:** relating to sets of belief, a way of seeing, an organising principle, and a map for understanding reality.
2. **A sociological paradigm:** relating to recognised scientific achievement of a given community of scientists or like a set of political institutions.
3. **A concrete paradigm:** relating to textbooks, tools, instruments and other artefacts of research methods. She also included linguistic uses in this set that related to metaphors, analogies, and gestalt switches.

Acknowledging this critique, Kuhn expressed regret for the confusion in SSR, stating that 'paradigm' "was a perfectly good word until I messed it up" (Kuhn, 2000). Consequently he later preferred to use two other labels to sum up his meaning, as outlined in his postscript to the second edition of SSR (Kuhn, 1969):

1. **A global paradigm - labelled 'disciplinary matrix':** that "stands for the entire constellation of group commitments, beliefs, values, techniques and so on shared by the members of a given community".
2. **A concrete paradigm - labelled 'exemplars':** one element of the global paradigm, they are "accepted examples of actual scientific achievement ... The concrete puzzle-solutions that act as models. Where components of knowledge are tacitly embedded in examples."

He summed up his position by stating that "a paradigm is what the members of a scientific community share, and, conversely, a scientific community consists of men who share a paradigm" (Kuhn, 1969). Kuhn considered that a paradigm is usually

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<sup>49</sup> A number of authors have traced the development of Kuhn's thinking: (Brad Wray, 2010; de Langhe, 2013; Donmoyer, 2006; Elad-Strenger, 2013; Kennedy, 2011; L'Abate, 2013; Marcum, 2015; Mertens, 2012; Mößner, 2011; Oberheim, 2005; Rowbottom, 2011; Stansfield, 2001; Wendel, 2006; Winther, 2012).

shaped and held by a community of around 100 people, but could be as small as 25 or less (Kuhn, 1962, pp. 179-180).

Shared commitments, then, are crucial for explaining the behaviour of the community (Rowbottom, 2011). Together paradigms function both cognitively and normatively (Kindi, 2012). From Kuhn's work (1962, 1969, 1977, 1990), paradigms:

- prepare students for membership in the community
- permit and guide research, providing standards that shape scientific practice
- set and define the problems to be solved
- are the criteria for choosing and evaluating problems
- provide a map whose details are elucidated by research
- are a prerequisite for perception
- provide a box into which nature can be shoved
- are adopted largely by faith.

All of these conceptions of paradigms or similar terms have an important point in common: members of different communities, holding different paradigms, can be said to operate in different worlds, and these worlds are incommensurable to some degree. This is because “though the **world does not change** with a change of paradigm, the scientist afterward works in a different world” (Kuhn, 2012, p. 121) and this is the content of the next subsection.

## Incommensurability

As with paradigms, ‘incommensurability’ is a term that has sparked numerous debates in multiple disciplines<sup>50</sup> (D’Agostino, 2013; Donmoyer, 2006), but I am once again interested in the concept from Kuhn’s point of view. Kuhn and Freyerabend each introduced ‘incommensurability’ independently in 1962. Both drew on its basic meaning from mathematics, that of two quantities having no ‘common measure’.

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<sup>50</sup> It is not relevant to work through all the issues here but see the following for a more complete discussion: (Bland, 2014; H. I. Brown, 2005; Centemeri, 2014; Chang, 1997; Cheon, 2014; Davies & Fitchett, 2005; Hoyningen-Huene, Oberheim, & Andersen, 1996; Oberheim, 2005; Penner, 2013; Verhulsdonck, 2004).



They launched from this to speak of non-comparability of different coherent scientific systems. The previous section on paradigms shows that these men were part of a group, who together were reacting against the dominant “logical empiricist orthodoxy” of their day (Gattei, 2008, p. 85), and it is in this context that incommensurability needs to be understood. This group rejected the principle of logical positivism, the idea that there is a language-neutral, objective, theory-independent, measure by which alternative theories can be assessed (Gattei, 2008, p. 85). Instead, in various ways, they considered that all observation was ‘theory-laden’, and thus rejected the “standard view” (Nickles, 2002, p. 250) of a single ‘scientific method’ (Gattei, 2008, p. 73).

To express their different position many used the metaphor of different worlds (Babich, 2003; Jacobs & Mooney, 1997; Kuhn, 1962; Polanyi, 1958), where even rival theories of physics are “descriptions of two different worlds, not two descriptions of the same one” (Gattei, 2008, p. 83). Talking about different worlds was an evocative and useful metaphor, but also confusing, in part because of the different ways they each used the metaphor. Kuhn himself used the idea in multiple ways<sup>51</sup>. Compare the quote at the end of the last subsection with this one: “when paradigms change, the *world itself changes* [emphasis added] with them” (Kuhn, 2012, p. 111).

Yet it was not the confusion that bothered the critics. At the time SSR was first published, Kuhn’s concept that different paradigms were in some sense incommensurable was seen by many as his most provocative and contentious idea (Hacking, 2012; R. J. Richards & Daston, 2016). His critics were enraged by his concept of incommensurability for reasons that resonate with the comments from the critical moments in the weft of this chapter; **that which for the realist is the greatest sin: ‘relativism’** (Carter & Gordon, 2013). For “many philosophers this is the end of the world” (D’Agostino, 2013, p. 521).

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<sup>51</sup> See Kuhn’s (1962) Chapter 10 in SSR, ‘Revolutions as Changes of World View’.

As with the participants' appeal to a singular scientific method, the key anchor point of coherence for realists is the existence of a mono-world reality that all share and that acts as the independent umpire of truth through observation and testing. To speak of different realities is incoherent in the most outrageous and nonsensical way. There can be only one real world; multiple worlds are impossible. For the realist, the final consequence of relativism is that there would be no means of communicating or developing science. From within the realist position there are few options here.

One approach is to reduce the difference between competing theories to an acceptable level by diluting it to something commensurable (H. I. Brown, 2005). Participants, for example, did this by reducing other research methods to 'valuable non-research'. The other main approach is to appeal to 'reality' itself (which just happens to be through the use of their own paradigm). Figure 30, however, shows that there are other options available for understanding reality than just positivism and relativism (see also D'Agostino (2013) on this point).

In the 1960s, Kuhn and others were not proposing relativism, but some vague, incipient form of critical realism. Gattei (2008, p. 108) contends that Kuhn utilised 'world' with two different meanings:

1. The 'noumenal world': the 'reality' that exists independently from paradigms, languages and minds
2. The 'phenomenal world': our 'experience of reality' that is constituted by paradigms; where different paradigms structure the world in different ways and affect how we perceive reality.

Thus, whereas there is only one noumenal world, there are a plurality of phenomenal worlds. It is between these phenomenal worlds that there is no common measure. So what does it mean that differences between worlds are incommensurable? Again I refer to Gattei (2008, pp. 100-104) who believes that Kuhn offers three different facets of discontinuity to the term 'incommensurability':<sup>52</sup>

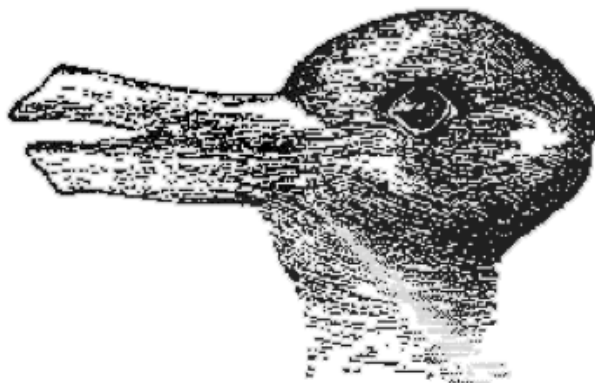
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<sup>52</sup> In his later writings he focussed only on semantic differences and the role of language (Kindi,

1. **Methodological:** where different paradigms utilise different standards, instruments and list of problems.
2. **Semantic:** the linguistic expression of different conceptual apparatus; where the same term means something totally different in a new paradigm; where “old terms, concepts and experiments fall into new relationships one with the other” (Kuhn, 1962, p. 137).
3. **Ontological:** where proponents essentially practice their trade in different worlds. So the “two groups of scientists see different things when they look from the same point in the same direction” (Kuhn, 1962, p. 150).

To explain these discontinuities between worlds, a number of authors draw on both the later writings of Wittgenstein and gestalt psychology. In order to see different paradigms as coherent, a person needs to consider the rearrangement of the three facets of discontinuity as a whole. Kuhn likened this to the shift of perception between alternative images in a gestalt picture, such as the rabbit/duck reproduced in Figure 31 (Nickles, 2002, p. 256).

**Figure 31. Gestalt rabbit/duck**



In my terminology of collective coherence, **a change in coherence requires the reconnecting of anchor points, the introduction of new ones, and an overall change in shape of the picture created.** This creates a new coherence that can be shared by a collective that can then see the whole.

To move between different paradigms requires a gestalt-switch or the now well-known phrase ‘paradigm shift’ (D’Agostino, 2013). Kuhn (2000, pp. 29-57) later said

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2012; Kuhn, 1990).

that in revolutionary change “one must either live with incoherence or else revise a number of interrelated generalisations together.” He believed that at the center was a change of “model, metaphor or analogy”. In his later works Kuhn also spoke of the need for a person to be ‘bilingual’ because it was not possible to translate everything from one language into another. A person needed to understand both languages to interpret the untranslatable elements in each of them (2000, pp. 37-53).

This brief summary of Kuhn’s main ideas demonstrates the similarities to my concept of collective coherence and the applicability of his thinking to the types of collisions described in the weft of this chapter. Next, in the weaving of the warp and the weft, I will apply his theoretical framework to the lived experience of my research participants.

#### ***5.4 Weaving the warp and the weft – applying Kuhn***

Having set out the relevant basic concepts of Thomas Kuhn, I am now in a position to use his ideas as a lens for explaining the paradigmatic collisions in the weft of this chapter. To aid in this I will use a more recent model that will provide visual support for my argument and illustrate the progress of thought since the 1960s.

Since Kuhn, philosophers of science have continued to engage with the deeper philosophical underpinnings that lead to different methods<sup>53</sup>. These broader ‘methodologies’ have been debated at length since the time of Kuhn and his contemporaries. In contrast to the hard (natural) sciences, the soft (social) sciences have utilised many types of methodologies in ‘qualitative research’ that are justified in different ways. Therefore, texts on qualitative research often present a range of different philosophical approaches and note how these relate to specific instruments, activities and methods (Creswell, 2009; Crotty, 1998; Patton, 2002; Yin, 2011).

Van Kerkhoff’s<sup>54</sup> research methodology model (discussed earlier at Figure 11) presents a simple framework that enables me to connect Kuhn’s ideas to the

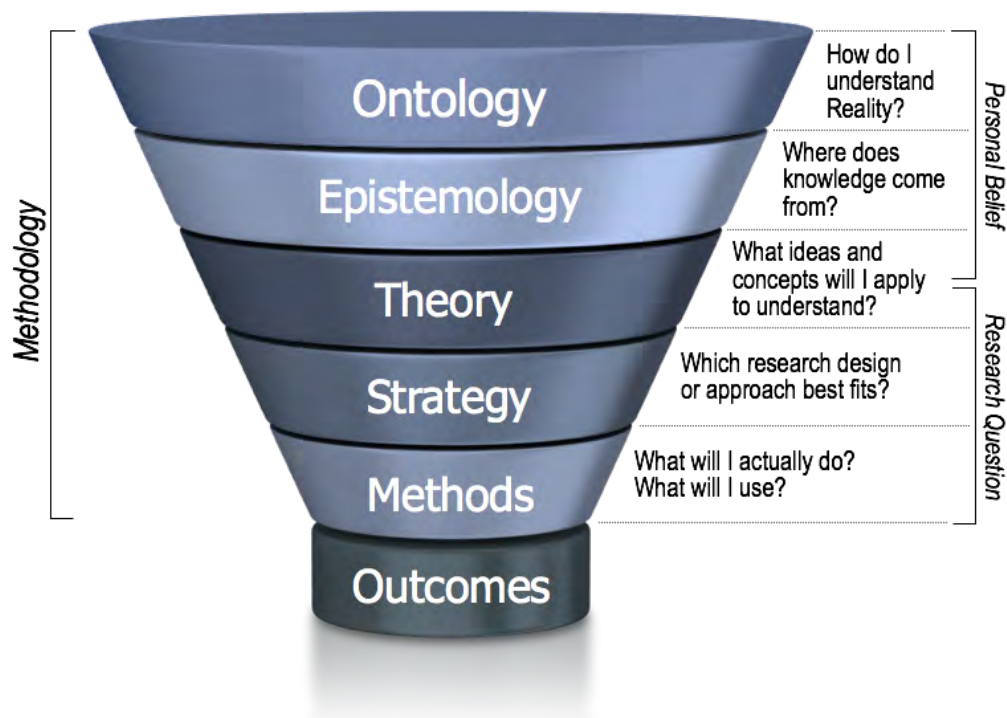
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<sup>53</sup> See in particular the work of Nowotny (Nowotny, 2015; Nowotny et al., 2001)

<sup>54</sup> I acknowledge that Lorrae van Kerkhoff is one of my supervisors but the use of her model is

collisions in the weft. In Figure 32, I have adapted her model again, this time retaining her funnel metaphor, but with a final 'Outcomes' step to align it with the project context of my research. In this model, all of the process steps in 'the scientific method' shown earlier in Figure 29 are combined into one 'methods' layer. Here, the 'methods' layer is only concerned with what will actually be done, using which tools or instruments. The total can be used as an overall model for the research process.

**Figure 32. Van Kerkhoff's Funnel model – further adapted**



To me, the collisions make sense if I use Kuhn's second, more specific sense of paradigm as 'exemplar'. Participants' sense of coherence for their research process was founded only on the 'methods' layer, where related elements linked to their own disciplinary backgrounds. The research process was sanctioned by a respected community who tightly controlled the boundaries for acceptable practice and specified the right instruments and processes (H. Margolis, 1993). This was reinforced as participants were highly successful in their university academic training, being perceived by others as excellent representatives of their disciplinary community. They achieved this through strong conformity to their chosen field.

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based on theoretical relevance rather than personal association.

Finally, all the disciplines on the attack had roots in research traditions that were basically realist and essentially positivist.

This sets the scene for the collisions as wars over specific versions of the scientific method. The collisions themselves were amplified by a couple of crucial additional factors. First, none of the participants appeared to be aware of the philosophical underpinnings embedded in their method. **All of the layers in Figure 32 were functionally invisible to them except the method and outcomes layers<sup>55</sup>.** Second, there were specific elements in each method that were critically important to the participants, but essentially tacit, and therefore the attacks were gut-level reactions to perceived unacceptable incoherent practice. Finally, their invisible 'realist' philosophical foundation meant they were all operating in a mono-world view of reality where they believed the research would provide them with a singular, predictable certain answer through a proven rigorous process.

This realist position is as antagonistic to a multi-world view of reality as Kuhn's critics were in his day to any hint of relativism. Consequently, at the time of the collision, there was no room for seeing other research as a valid coherent alternative. By definition it had to be heresy, a threat to the community of truth seekers, to the project, and to their own professional standing. Those who were willing to reflect on their own thinking exposed tacit understandings and were driven to a level of dissonance that was resolved in a number of ways:

1. Re-categorise the other type of research as something valuable but not research.
2. Attempt to shoehorn the other research into their own method as an acceptable but second-class form of research.
3. Give up on understanding the other research but recognise that another community of researchers has sanctioned it somehow and therefore it is somebody else's problem (SEP) (Adams, 1990).
4. My own research was taken out of the debate in two different ways. I was trusted personally and appeared to know what I was doing. Therefore, I was given a privileged position by some, and was not required to conform, and

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<sup>55</sup> Faced with a similar problem in information science, Johan Lor (2014) uses an iceberg model to reach the same sort of conclusion as I have here.

allowed to function as an anomaly. For others, my views could be dismissed by reframing my contribution as “just consulting” and therefore not research.

All of these approaches maintained the original realist foundation, by either reclassifying them out of the accepted research paradigm, throwing the problem onto another community, or dealing with the individual involved by trust. While this provides a sound explanation for how and why these collisions occurred, my next concern is what can be done about it.

#### 5.4.1 Advantages and limitations of facilitating collaborative action research

My methodology, explained in Chapter 2, has been shown in this chapter to have had mixed success as a process for both research and improving multi-disciplinary collaboration. In the case of paradigm collisions, I have claimed above that the critical issue is a lack of awareness of the invisible, tacit philosophical elements of research methodologies.

There were various constraints that affected what was possible in addressing these paradigm collisions. In every case someone attacked a colleague over perceived poor research. In most instances I was unable to get those involved to stop and explore what had just occurred. Thus, most of the collisions did not even move into the exploration phase of my action research wave model.

Only when it was obvious to all those involved that a crisis was occurring, such as the complete break-down of collaboration, was there a willingness to work through the whole ‘wave’ process. Even then, a few, like Hawkeye, complained about my constant need to go ‘meta’ and stated that he just wanted to ‘get on with the job’. This has led me to reflect on my role as facilitator in a number of ways:

1. **Being there:** If I hadn’t been a part of the project, most of the collisions would not have been acknowledged and addressed. This was noted by the participants. Collisions occurred during normal work and were usually not heralded beforehand or placed on an agenda.
2. **Trust:** The relationships between myself and the rest of the people on the project developed a high level of trust. Without this I would not have been

able to do anything that challenged their deeply embedded faith in their own research communities.

3. **Disrupt work as usual:** It was difficult but necessary to break the normal process of work. My role as facilitator empowered me to attempt the disruption but did not in itself guarantee traction.
4. **Incipient dissonance:** There was a sense of unease kicked up by the collisions that I was able to utilise as motivation for further reflection.
5. **Digging deeper:** My role, relationships, trust, and the support of Catherine and Amber enabled me to spend time with individuals and groups to dig deeper and bring to the surface tacit ideas and understandings.
6. **Exposing the underlying paradigm:** I see now that whereas I thought I had helped identify the whole global paradigm, the participants were still thinking only of the subset of an acceptable exemplar. This disconnect resulted in my not adequately addressing the underlying issue of different ontologies and epistemologies.
7. **Lack of structure for surfacing the tacit:** My lack of a clear and solid structure for dealing with the tacit and embedded nature of paradigmatic collisions meant I did not challenge the mono-world realist hegemony that imbued the whole project team.

This section has highlighted the emergent and relational nature of my research. Weaving is an apt metaphor for how interventions worked in practice. I would draw on experiences to select appropriate theory or ideas. These in turn were adapted to the individuals and groups within the constraints of the work environment.

## ***5.5 Conclusion***

The nature of the A2J2 project and the backgrounds of my research participants resulted in an almost inevitable set of collisions over the nature of research. Faultlines relating to this topic show that individuals tacitly held allegiances to disciplinary collectives or an imagined, nebulous research community. Research was seen as a coherent whole, with the scientific method unquestioningly held as the gold standard for assessing the quality of a person's work. The aggressive nature of the 'attackers' in these incidents was surprising at the time but makes more sense when seen through the lens of Kuhn's perspective on the history of science.

Kuhn's concepts of paradigms and incommensurability provide a useful explanation for these phenomena. His theoretical framework strongly aligns with my concept of



collective coherence, filling out how collisions can be seen as the result of incommensurability between particular elements of a group's coherence. All of the eight elements of my collective coherence model have been touched on in this chapter, for instance:

- purpose, in regards to what research was meant to achieve
- people, objects and processes were all contested, with a strong normative assessment made on the 'right' version of each needing to be used to produce 'rigorous' research
- the single voice of the collective monophony was reinforced through the attacks, which can also be seen as a form of boundary riding (see Interlude: Overcoming Boundaries).

This chapter has shown that dealing with deeply embedded and highly tacit paradigms is difficult and time-consuming, and requires long-term relational trust. The constraints on using my action research wave are a significant finding as it demonstrates a limitation in this style of research. I was trapped in a bit of a 'Catch 22'. Permission is insufficient if those involved do not understand the need to work through a reflective process of research. Understanding the need for reflection requires undergoing the experience of that reflective process.

Another finding from analysing these events is that the stronger a mono-world view of the situation, the less inclination there was to reflect. This was amplified by the strong boundaries set up around an acceptable research process. Again, Kuhn is helpful in identifying this with the issue of incommensurability between scientific communities.

The impermeable nature of boundaries was prominent in the critical moments of this chapter, and boundaries as a concept is the topic of the following interlude.





## Interlude: Overcoming Boundaries

To deal with increasingly complex, ambiguous, and innovative tasks, modern organizational teams are expected to work beyond team boundaries and deal with repeated environmental disruptions (Harvey, Peterson, & Anand, 2014, p. 507).

This quote sums up a key aspect of what the Core Team faced. The worlds of humanity abound in boundaries, because “people create meaningful distinctions by classifying an otherwise continuous social reality into categories” (Harvey et al., 2014, p. 507). In the project team many of these boundaries became visible, and activated as faultlines. In my stipulative definition of collective coherence (see Interlude: Clarifying Collective Coherence), I stated:

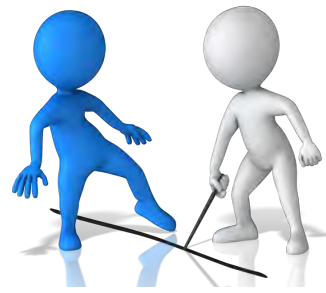
**Boundaries** help to delineate who is in the collective and who is not, creating incommensurabilities between different collective coherences. Boundaries may differ in permeability, width and strength.

I contend that collisions of collective coherence are founded in part by boundaries, initially ‘symbolic’ boundaries that conceptually define the basis for collective membership. If these symbolic notions are objectified into exclusionary practice, they become social faultlines (see Chapter 1). The nature of exclusion is thus made manifest through “the practices, symbols, technologies, and resources that may be rearranged in order to demarcate or change a boundary” (Mayrl & Quinn, 2016, p. 5), and expressed in discriminatory practices and physical barriers. Here I am interested in how boundaries are reinforced or overcome. First, then, I need to describe the different types of boundaries that can occur between collective coherences.

### *Types of boundaries between collective coherences*

At their most basic, “boundaries are always conceptualized in between two or more sites” (Mayrl & Quinn, 2016, p. 6). This is a simple but crucial point. A boundary presupposes something on either side of it and can be defined as a human:

demarcation, or a sphere of activities, that marks the limits of an area, which may include knowledge, tasks, as well as hierarchical, physical, geographical, social, cognitive, relational, cultural, temporal/spatial, divisional, occupational, and disciplinary boundaries (Akkerman & Bakker, 2011, p. 139)



**Figure 33. Boundary as a human demarcation limiting an area**

I am interested in the types of boundaries that separate the sphere of activities of collective coherences, and there are many that are relevant. Reviews on the use of the term *boundaries* have noted that it has become ubiquitous in many disciplines (Hsiao, Tsai, & Lee, 2012, p. 463), including geography (Lamont & Molnar, 2002), anthropology (Tilly, 2004), history, philosophy (MacPhail, Roloff, & Edmondson, 2009), political science, social psychology, organisational theory, (Pachucki, Pendergrass, & Lamont, 2007), education (R. Jones, 2009) and sociology (Akkerman & Bakker, 2011).

There is limited agreement on the definition of a ‘boundary’ because of the exclusion of certain disciplines in supposedly multidisciplinary reviews, with many authors “largely unaware of studies of boundaries beyond their own specialties and across the social sciences” (Akkerman & Bakker, 2011, p. 135). It is not surprising then that the range of meaning of ‘boundaries’ is dependent on the system of thought within which it is being used. However, fundamental to all the definitions of boundaries is the delineation between who and/or what is in or out. The following are the most relevant uses of boundaries for my purposes.

## **Physical boundaries and borders**

Basic boundaries for humans are often physical and spatial, and these are strongly associated with the discipline of geography and a focus on geopolitics and physical and political borders (Nail, 2016b). The central idea is of the ‘line-on-the-ground’, particularly of international borders (Newman, 2006, p. 145). Since the 1980s, geographical research into boundaries has diversified but mostly retains a spatial perspective even where the boundaries under discussion are concepts, classification systems, or physical objects (R. Jones, 2009, p. 181). There has also been a

recognition of the socially constructed nature of physical boundaries (Schaffter, Fall, & Debarbieux, 2009).

This has relevance for my research, as many of the boundaries faced during the project had a physical aspect: secure buildings and doors, the partitioning of work space and offices, and the boundaries between cities and regions. Beyond physical boundaries are the more *mental* constructions of metaphor and symbols.

## **Boundaries as metaphoric lines or zones**

Boundaries are seen in some disciplines as a consequence of a human need. “To survive in the world we have to simplify it” (Lakoff & Johnson, 2003), as the complexity and chaos are too much for us to cope with directly. Therefore, our minds create bounded categories as part of our way of making sense of the world. This is achieved primarily through the use of fundamental metaphors, “most of which are spatial but can also be olfactory, tactile, or visual,” that emerge from our “embodied experiences in the world” (R. Jones, 2009, p. 176).

From this perspective even physical boundaries such as rivers are seen as expressions of metaphoric categories (R. Jones, 2010, p. 263) constructed by individuals or groups (Mayrl & Quinn, 2016). The conflicts over ideas in Chapter 3 exemplify the role of metaphors for some collective coherences. Building on these underlying metaphors are *symbolic* and *social* boundaries.

## **Symbolic and social boundaries**

These types of boundaries focus on the distinction between ‘us’ and ‘them’ (R. Jones, 2009, p. 176), with roots in the work of authors such as Marx, Weber, Kant, Wittgenstein (Lamont & Molnar, 2002, p. 169), and Durkheim (R. Jones, 2009). Academic interest has been in the “research on social and cultural divisions between groups” (Pachucki et al., 2007), with a particular focus on “the **dynamics** of symbolic and social boundaries” (Vila-Henninger, 2015, p. 1025), as well as on the bounding process rather than the specific categories produced (Newman, 2006). These types of boundaries have been defined as:

conceptual distinctions made by social actors to categorize objects, people, practices, and even time and space. They are tools by which individuals and groups struggle over and come to agree upon definitions of reality. Symbolic boundaries also separate people into groups and generate feelings of similarity and group membership (Lamont & Molnar, 2002, p. 168).

Or more briefly as

a sociocultural difference leading to discontinuity in action or interaction (2011).

Consequently,

social boundaries interrupt, divide, circumscribe, or segregate distributions of population or activity within social fields. Such fields certainly include spatial distributions of population or activity, but they also include temporal distributions and webs of interpersonal connections (Tilly, 2004, p. 214)

Within the field of social boundary research, is literature specifically related to organisations and this is my final type of boundary under review.

## **Organisational boundaries**

Research in this area includes physical, social, and mental boundaries relating to organisations. In particular, there has been work on boundaries in multidisciplinary (Heracleous, 2004, p. 95) and project teams (Liberati, Gorli, & Scaratti, 2016) in organisations, as well as collaboration across knowledge boundaries in such teams (Swart & Harvey, 2011). Linked closely to this is the exploration of learning at (MacPhail et al., 2009) and across workplace boundaries (Akkerman, 2011).

Finally, the issues of team identity and identity affirmation have been strongly linked to the study of organisational boundaries (Kerosuo & Toiviainen, 2011) and communities of practice within organisations (MacPhail et al., 2009; Wenger, 1998). This work has looked into how problems associated with boundaries may strengthen barriers to:

- shared understanding (Lamont & Molnar, 2002, p. 169)
- equity and the equitable use of resources (Akkerman & Bakker, 2011), and
- the capacity to collaborate (Heracleous, 2004).

All of the types of barriers described above can be found in my research data. As stated earlier, many of these boundaries became visible and activated as faultlines (see Chapter 1). In response, my research participants tended to either reinforce boundaries or seek to overcome them in some fashion.

### ***Boundary work: reinforcing or overcoming boundaries and faultlines***

If “boundary work shapes much of social life” (Petersen, 2007, p. 475), then it follows that humans will have developed ways of dealing with boundaries. This is reflected in specific topics in the literature such as ‘boundary maintenance’ (Mayrl & Quinn, 2016), ‘boundary crossing’ (Bailey, 2008), ‘boundary processes’ (Diefenbach & Sillince, 2012), ‘boundary mechanisms’ (Pachucki et al., 2007), ‘social and collective identity’ (Tilly, 2004), ‘communities, national identities and spatial boundaries’ (van den Scott, 2015), ‘politicisation and institutionalisation of boundaries’ (Nail, 2016a), ‘boundary objects’ (Lamont & Molnar, 2002), ‘social exclusion’ (Bowker & Star, 2000; Star, 2010), ‘knowledge boundaries’ (Vila-Henninger, 2015), ‘organisational boundaries’ (Swart & Harvey, 2011), ‘organisational shunning’ (K. K. Chen & O’Mahony, 2009), ‘multidisciplinary collaboration’ (J. W. Anderson, 2009), and the various effects of all of these (Liberati et al., 2016).

All of these topics have been grouped under the umbrella term of ‘boundary work’ (Ramarajan, Bezrukova, Jehn, & Euwema, 2011) and it is “during episodes of boundary work, [that] actors struggle to make sense ... within an existing schema” (Tilly, 2004, p. 217). Again, this *sensemaking* may be attempting to reinforce a boundary or overcome it. Table 14, drawing on Akkerman and Bakker (2011) and Mayrl and Quinn (2016, p. 6), summarises a number of the boundary mechanisms most relevant to this thesis. I have added a column to identify other sources in the literature for each mechanism.

There are four classes of boundary mechanisms in the table. The first three, Demarcation, Maintenance and Reframing, include boundary work that “takes the form of classification struggles” (Mayrl & Quinn, 2016). The final class is Learning,

and includes the many ways that boundaries can facilitate learning (Mayrl & Quinn, 2016, p. 3). While other mechanisms are mentioned in the literature, the specific boundary mechanisms listed in the table were the main ones active in the research project.

**Table 14. Boundary mechanisms**

Mechanism Class	Specific Mechanism	Source	Description
<b>Demarcation</b>	Inscription	Mayrl and Quinn (2016, p. 7), (Tilly, 2004)	Practices that articulate the existence of or differences across a boundary.
	Erasure	(Mayrl & Quinn, 2016), (Tilly, 2004)	Changes to a boundary that reduce its articulation or difference.
	Blurring	(Mayrl & Quinn, 2016), (Karakayali, 2014)	Increased ambiguity of the boundary through greater perceived commonality.
	Redrawing	(Smith & Ward, 2015),	Alters the major boundaries that are organizing action and interaction.
	Distancing	(Tilly, 2004), (Lave & Wenger, 2002)	Active exclusion of groups or individuals. Use of negative and isolating language.
	Inclusion	(Eldridge, 2013),	Extending a boundary to include other groups or individuals.
<b>Maintenance</b>	Activation	(Lave & Wenger, 2002), (Tilly, 2004) (Pachucki et al., 2007)	Increased <b>salience of boundary</b> as an organizer of social relations on either side of it.
	Deactivation	(Mayrl & Quinn, 2016)	Boundary becoming <b>less salient</b> .
	Policing	(Tilly, 2004), (Lamont, 2000)	Maintain the status quo through the ongoing monitoring of an existing boundary.
<b>Reframing</b>	Reasoning by Analogy	(Mayrl & Quinn, 2016)	Comparison of particular configurations of practices against an existing schema.
	Reconfiguration	(Mayrl & Quinn, 2016)	Adjustments to configurations to make them reflect existing schemas.
	Repurposing	(Mayrl & Quinn, 2016)	Incorporating a new function to an existing institution to preserve an existing boundary
	Site transfer	(Mayrl & Quinn, 2016)	Maintains a boundary but shifts the exact locations of persons and social sites.
	Transformation	(Tilly, 2004)	Total change of the configuration of schemas.
<b>Learning</b>	Boundary crossing	(V. A. Brown & Harris, 2014)	A person's transitions and interactions across different sites.
	Boundary Objects	(Akkerman & Bakker, 2011), (Star, 1989)	Artefacts that function as bridges between domains.
	Peripheral participation	(Bowker & Star, 2000)	The social induction of outsiders towards the centre of a group.

In looking through the entries in the table above, it is unsurprising that mechanisms that reinforce boundaries are found primarily in my critical moments and the early part of the wefts in each chapter. In contrast, the weaving section in the chapters is dominated by boundary-overcoming mechanisms such as all those in the *learning class*, as well as boundary blurring, redrawing, deactivation, and transformation. In



each case boundaries are commented on because something has triggered the use of a related mechanism.

### ***Boundary mechanism triggers***

The use of ‘triggers’ in the literature has a strong correspondence to my use of the phrase ‘detection of incoherence’ (see Interlude: Listening to Dissonance). In both cases a reaction can be triggered by interactions between ‘social elements’ that include people, their actions and transactions. These interactions of social elements can be “cognitive, environmental, and relational events” (Lave & Wenger, 2002).

Tilly (2004, pp. 218-220) lists five triggers:

1. **Encounter:** When members of “two separate networks enter the same social space and begin interacting”.
2. **Imposition:** When new lines are drawn by an ‘authority’ on a ‘social site’.
3. **Borrowing:** The “installing of a familiar sort of boundary in a new location”.
4. **Conversation:** More than just ‘talking’, this involves any routine interaction where “exchanges of signals modify relations among the parties”.
5. **Incentive shift:** Any change in the ‘rewards’ and ‘penalties’ that participants in boundary work receive.

Whilst I agree with Tilly that any combination of these events can trigger boundary work mechanisms, I would go further. In my research it was possible to predict the triggering of boundary mechanisms because of the trajectory of particular collective coherences. This is described in Chapters 4 and 5 on personality clashes and opposing paradigms. In each case, the Core Team members and I were all able to discern which collective coherences were likely to collide, and over what type of event. So I would contend that any collective coherence has an inherent potential energy toward its boundary that becomes active when triggered.

## ***Conclusion***

The literature on boundaries is highly relevant to my exploration of collisions of collective coherence. This interlude has reviewed some of the salient topics from multiple disciplines and described a number of types of boundaries observed in my data. These included physical, metaphoric, symbolic, and social boundaries.

Boundaries can be triggered through interactions between individuals or groups. This leads to *boundary work*, that includes many specific mechanisms. Of these, the most relevant to my thesis were listed in Table 14 and include mechanisms that either strengthen boundaries and faultlines, or reduce them. Strengthening of boundaries can reinforce the collective coherence of homogeneous groups, removing or excluding those who don't fit. In contrast, the development of transcoherence requires an awareness of boundaries and their reduction in a suitable way.

The concept of boundaries is found throughout the thesis, but it is placed here because it is most apparent in the preceding chapter, *Opposing Paradigms*, and the following one, *Incompatible Organisational Cultures*.

# Chapter 6: Incompatible Organisational Cultures

## ***6.1 Introduction***

When multiple organisations engage in tackling a wicked problem they need to be sufficiently aligned that they can coordinate and collaborate their efforts for their common purpose (Innes & Booher, 2016). A key factor in this type of collaboration is having compatible organisational cultures (Buick, Carey, & Pescud, 2017; Chua, Morris, & Mor, 2012). In this chapter, I pick up the very common term of *culture* and examine its relevance to collisions of collective coherence. *Culture* has been described as “one of the two or three most complicated words in the English language” (R. Williams, 1985, p. 87), as it has “come to be used for important concepts in several distinct intellectual disciplines and in several distinct and incompatible systems of thought” (p. 87).

Consequently, to manage the scope of my use of culture, for this chapter's warp I am specifically utilising *organisational culture*, as defined by Edgar Schein (1999a, 2010, 2013, 2016). The reasons for choosing Schein's work will be explained at the start of the warp. As a further means of reducing ambiguity, in this chapter the warp will come before the weft. Having thus set the broad parameters of the chapter, let us consider a critical moment that exemplifies a collision of organisational culture.

## ***6.2 A Critical moment of cultural collision***

My data is full of collisions between organisational cultures, but to focus the scope of this chapter I begin by looking at a key one. The primary organisational culture in this moment is that of the Australian Public Service (APS). The collision is with a new government.

### 6.2.1 A political collision – “I have to call them illegals”

This critical moment occurred at the start of one of the IDCG meetings. A new, conservative government had come into power and was introducing new directives about which terms would be acceptable for public servants to use. As a group, we had been exploring the needs of youth in transition, including refugees that were unaccompanied minors.

One of the people from Immigration entered the room and after saying hello, burst into tears saying, “I have to call my refugees ‘illegals’”. We were all shocked, and comforted her until she gathered herself.

Though very brief, this moment highlights a great deal about cultural collisions. It also identifies a key point of collision for the project participants and is discussed in detail in the weft below. To set a framework for the weft, I now turn to the work of Edgar Schein.

### 6.3 *The warp: Edgar Schein’s organisational cultures*

As mentioned above, this warp comes before the weft, and is focused on the concept of *organisational culture*, a subset of *culture*. It also draws on the life work of one author, Edgar Schein. As I set out in the first chapter, the theoretical lens in each chapter’s warp must offer both theoretical and practical value to the participants and to me, as well as acting as an explanatory framework, shedding light on the weft. Other factors for selecting a particular theory are that it must be relevant, familiar, and applicable. Schein’s concept of organisational culture meets all these criteria. I have utilised Schein’s work for decades and applied it in numerous situations. Consequently, I am very familiar with his particular view of organisational culture and have found it to be easily applied to many work situations.

In a review of the last thirty years of organisational literature, Giorgi, Lockwood, and Glynn (2015) noted that the “concept of culture is central to organization studies” (p. 2), and has been conceptualised into “five main models of values, stories, frames, toolkits, and categories” (p. 2). My choice of Schein focuses on the first of these models, and the following section outlines his conceptualisation of organisational culture. Schein’s view of organisational culture, as detailed in *Organizational Culture*

*and Leadership* (Schein, 2010), has both horizontal and vertical dimensions. The horizontal dimension relates to scale, ranging from macro down to micro cultures. The vertical dimension identifies three levels within a culture, regardless of scale.

### **6.3.1 Scale: A horizontal dimension of culture**

The macro scale is the broad environment in which an organisation operates. This includes macrocultures such as that of the nation in which the organisation is located (p. 55). Other macrocultures that may influence an organisation include those ideologies, philosophies, or religions that are part of the broader social context.

At the meso scale are the culture of the organisation as a whole, and multiple types of subcultures operating within the larger context of the organisation. These subcultures often form around the organisation's functional units, and may be based on a similar educational background, a shared task, or similar organisational experience. Subcultures often overlap within the organisation, and may extend beyond the organisation into broader professional and academic fields. For example, an executive who is a lawyer is a part of the executive subculture in his organisation, but also of the legal fraternity (p. 55).

Members of subcultures, then, tend to have similar educational backgrounds and therefore have been socialised into a specific way of thinking or worldview that reflects the requirements of that specialisation (p. 57). This is a classic example of a collective coherence.

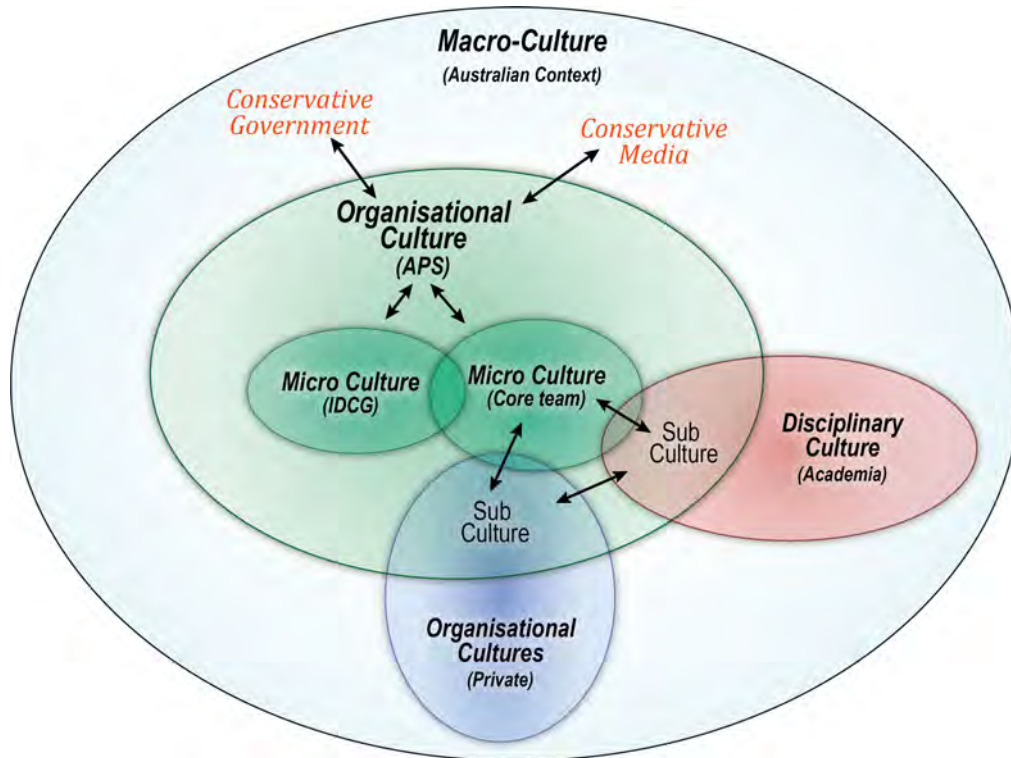
At the micro scale are "small groups that share common tasks and histories ... Shared assumptions ... arise especially in groups whose task requires mutual cooperation because of a high degree of interdependency" (p. 67). The A2J2 Core Team and IDGC were examples of microcultures in the Attorney General's Department.

This horizontal view of cultural scale can be visually represented as a Venn diagram showing the relationships between different cultural groupings. Figure 34 shows

multiple overlapping cultures in play with the A2J2 project, displaying their different scales and mutual influences.

At the macro scale is the broad Australian historical context within which the A2J2 project was conducted, as described in Chapters 1 and 2. Included in this context are a recently elected conservative government and a sometimes-hostile media.

**Figure 34. Schein's concept of cultural scale, as applied to the A2J2 project**



At the meso scale, there are three main subcultures that partially overlap. The primary culture was the APS (in green). The project also interacted with many private organisations (in blue), each with their own cultures but often aggregated in contrast to the APS. Academia (in red) included both universities and the academic team members. At the micro scale are specific project groups, such as the Core Team and the IDCG.

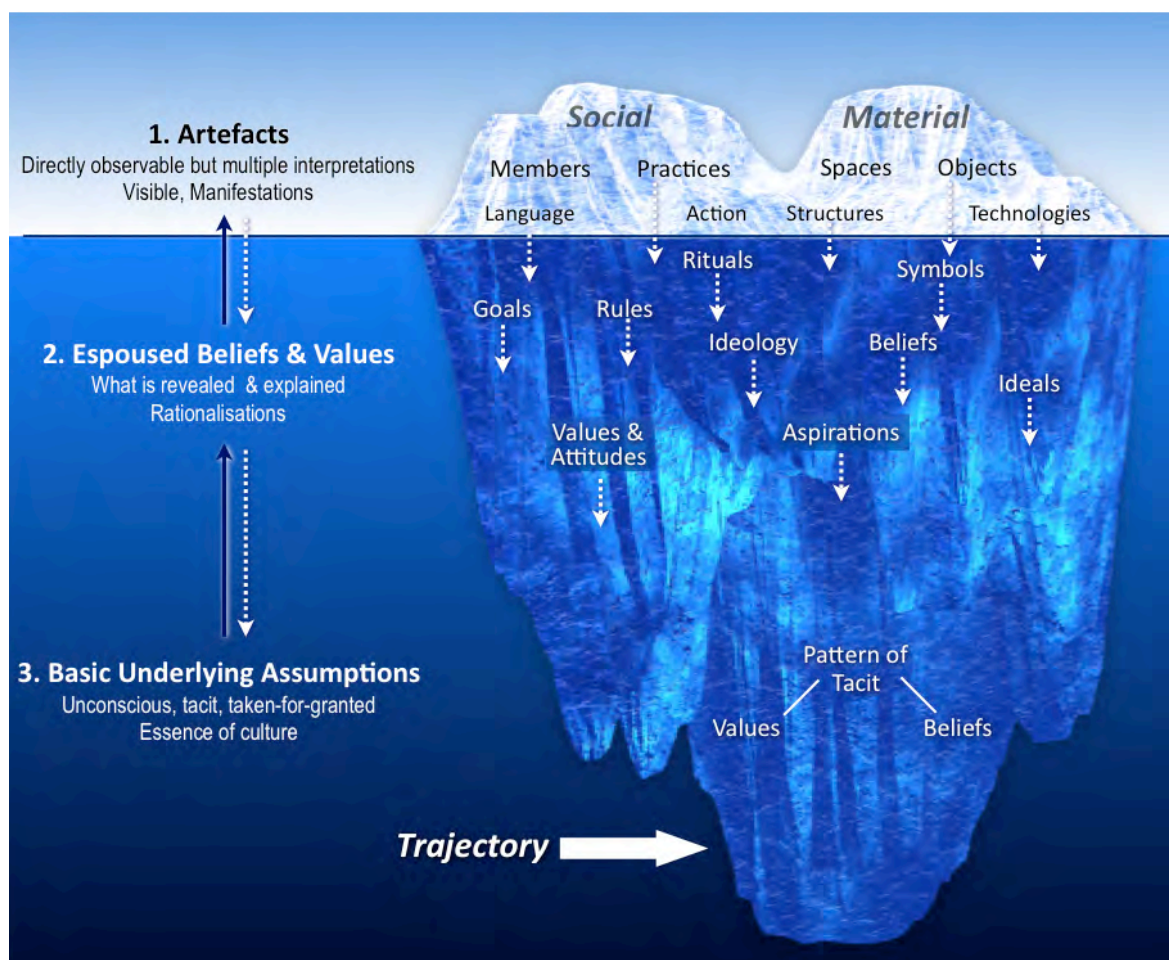
If I shift now from a mathematical metaphor to a physical one, Figure 34 could be considered the perspective of someone looking down as they fly over a group of icebergs. If we drop down into the water, we can view each culture from the side and thus gain an understanding of Schein's vertical dimension.

### 6.3.2 Depth: a vertical dimension of culture in three levels

In Schein's view, when considered in the vertical dimension, culture has three different levels at which it can be analysed: 1) artefacts, 2) espoused beliefs and values, and 3) basic underlying assumptions. Figure 35 represents this through an iceberg model adapted from Schein (2010, p. 24). The model can be applied to a culture of any scale, but the specifics will differ between scales.

The left side of the diagram shows the name of each level, with a brief description. On the iceberg itself are specific cultural elements that are found at each level. The solid arrows pointed up show the influence of a deeper level on the ones above it. The dotted white arrows pointed down show the limited influence of the upper levels on those below. The large white arrow at the bottom of the diagram denotes the dynamic nature of the model, that cultures move, change, and result in particular consequences.

**Figure 35. Levels of organisational culture (adapted from Schein (2010, p. 24)).**



## **Level 1. Artefacts**

Schein describes the top level as the 'surface level'. This contains all the observable manifestations and expressions of the organisation's culture; that is, "all the phenomena that you would see, hear and feel" (p. 23). They include physical things, such as architecture, the internal environment, furnishings, technologies, and even clothing. They also include observable social manifestations such as language, manners of address, rituals, ceremonies, emotional displays, and the organisation's published documentation (such as policies and procedures).

Schein also makes the point that the elements of this level are "both easy to observe and very difficult to decipher". This is because "observers can describe what they see and feel but cannot reconstruct from that alone what those things mean in the given group" (p. 24). They may be symbols of deep cultural significance, but these symbols are ambiguous. This ambiguity can lead to conflict and misunderstanding as individuals project their interpretations onto these visible manifestations of culture, thus creating collisions. For the outsider or newcomer to learn the meaning of Level 1 cultural elements requires time and dialogue with group members. This process of inquiry leads naturally to Schein's second level.

## **Level 2. Espoused beliefs and values**

This level contains the conscious and explicitly articulated beliefs, values, moral/ethical rules, and ideologies that are used as a "way of depicting the culture to themselves and others" (p. 26). These articulations are primarily driven from the top of the organisation: founders, CEOs, or leaders, who work to reduce "uncertainty in critical areas of the group's functioning" (p. 26).

The values espoused at Level 2 may not actually be reflected in the observed behaviour of individuals. This phenomenon has been written about in depth by Argyris and Schön (1978, 1995) who warn that care must be taken to discern whether espoused values are congruent with underlying assumptions. If not, Schein (2010) argues they may only be rationalisations or, at best, "aspirations for the future" (p. 27).



A second limitation of cultural elements at Level 2 is the fragmentary nature of what is codified or articulated, such that “espoused beliefs and values often leave large areas of behaviour unexplained” (p. 27). Consequently, to get a fuller appreciation of an organisation’s culture requires going deeper, to the third and final level of culture.

### **Level 3. Basic underlying assumptions – the cultural DNA**

This is the deepest level of the model. Schein emphasises that repeated actions, if successful, eventually come to be taken for granted and “treated as reality” (p. 27). Thus, they become ‘basic assumptions’, tacitly held and therefore no longer able to be disputed. A basic belief, held tacitly, can become so “strongly held in a group, members will find behaviour based on any other premise inconceivable” (p. 28). In his most recent work Schein uses a new metaphor, describing this level as “*the cultural DNA*” (Schein & Schein, 2017, p. 7). The basic assumptions that operate at this level are “extremely difficult to change” (Schein, 2010, p. 28).

In this third level, all the basic assumptions join together to create a “patterning or integration of the elements into a larger paradigm or ‘gestalt’ that ties together ... into a coherent whole” (p. 17). Schein concludes that this “pattern of shared, basic taken-for-granted assumptions” is “the *essence* [emphasis added] of a group’s culture”, and that this culture “will manifest itself at the level of observable artifacts and shared espoused values, norms, and rules of behaviour” (p. 32).

Because of these deeply held, but tacit, assumptions, culture is dynamic, developing as “groups of people struggle to make sense of and cope with their worlds” (Trice & Beyer, 1993, p. 4, as cited in Schein, 2010, p. 17), driven by a “human need to make our environment as sensible and orderly as we can” (p. 17). The longer the history, the more stable the membership, and the greater the emotional intensity of the shared experiences, the stronger a culture will become (p. 17).

### 6.3.3 Organisational culture defined

With both the horizontal and vertical dimensions of culture in mind, then, Schein proposes a formal definition of organisational culture:

A pattern of shared basic assumptions learned by a group as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems (p. 18).

He builds on this definition by noting that working with others who share the same 'thought world' is comfortable and helps to maintain a person's psychological equilibrium. "The human mind needs cognitive stability. Therefore, any challenge or questioning of basic assumptions will release anxiety and defensiveness" (p. 29); in other words, a form of Festinger's cognitive dissonance (1957). This puts pressure on individuals to distort, deny, or in other ways falsify to themselves what may be going on around them, "to make the events around us congruent with our assumptions" (Schein, 2010, p. 28). He goes on to say that running into a different gestalt of basic assumptions often leads to misperceiving and misinterpreting the actions of others (p. 29). All of this fits well into my definition of a collective coherence and collisions.

Finally, as touched on earlier, Schein's vertical, three-leveled model of culture is not static. Rather, culture by Schein's definition, "tends towards patterning and integration" (p. 18), so that over time organisational culture will strengthen and be passed "on to new generations of group members" (p. 19). This is accomplished through a process of socialisation and acculturation which includes "rewards and punishments meted out by old members to new members" (p. 19).

To begin to understand an organisational culture requires working through all three levels through dialogue with members about their history, especially the most "critical situations" (p. 19) that they have gone through together. How this was done in my research will be discussed in the section on weaving the warp and the weft.

Therefore, having defined how organisational culture is used in this chapter, it is time to see how it operates as a lens for understanding the lived experience of my research participants.

### ***6.4 The weft: levels of culture in the APS***

This weft, as usual, contains comments and insights from the people associated with the A2J2 project who agreed to be part of my research. It represents the world according to them, and presents their lived experience of collisions of collective coherence and their reactions to those collisions. In this chapter, I am applying the warp, specifically Schein's concept of culture, to how I structure the weft. The focus here is organisational culture in relation to the APS. The Core Team is once again an important source, but the members of the IDCG are also crucial and my interviews with them make up the bulk of the material drawn on. Interviews with the internal departmental leadership add to the source material, and I connect all of these with my own observations and related emails.

Table 15 shows collections of cultural collisions grouped according to Schein's three culture scale categories (macro, meso, and micro, from Figure 34). Each entry identifies the content of a collision and the parties involved in it. I draw from this table for examples of collisions in the rest of the weft.

***Table 15. Examples of organisational cultural collisions during the research***

<i>Content of collision</i>	<i>Individual/group 1</i>	<i>Individual/group 2</i>
<b>Collisions with external worlds (Meso to Macro)</b>		
Labels, terms and Language	Conservative government	Public servants
Stereotypes	Conservative politicians and media	Public servants & the city of Canberra
Practicality vs Accuracy	Public service	Academia
Time	Public service	Private organisations
Appropriateness of using an 'outsider'	Public service	External researcher and facilitator
<b>Collisions between agencies (Meso to Meso)</b>		
Role and status conflict	Central agencies	Line agencies
Role and status conflict	Policy focussed	Delivery focussed
Collaboration	Health	Everyone else
Patch protection	Any agency	Any other agency

Collisions within agencies (Micro to Meso and Micro to Micro)		
Employment levels	APS 1-6	Executive
Patch protection	Division/branch/section	Division/branch/section
Self-Identity	IDCG members	IDCG members

To help set the context for the weft and provide an overview of some broad cultural elements, I begin with my own general observations of the world of the APS, a meso scale culture.

### 6.4.1 General observations: APS culture

In this section I use Figure 35, the iceberg based on Schein's three levels of culture, as a template for creating a general cultural overview of the APS from my experience and the relevant literature. The APS is a large, complex collection of over 100 bureaucratic institutions, with approximately 165,000 staff (APSC, 2017a). It is highly stratified, both horizontally, into different types of agencies, and vertically, by classification level (the latter delineate clear differences in status, authority and power). All these boundaries lead to highly insular silos (both horizontally and vertically) enclosing different organisational subcultures (Carey, Buick, Pescud, & Malbon, 2017). My data illustrates public service culture at each of Schein's three levels, including physical structures, the APS approach to conformity and rewards, and the role of rhythms of time.

**Artefacts**, Schein's first level relates to the most readily observable manifestations of culture, of which buildings were the clearest example during the project. The Core Team were in a brand-new set of buildings, as were some of the other agencies linked to the project, whereas others were housed in significantly older ones. These differences in accommodation created collisions between the haves and the have nots.

Other immediately visible cultural elements include the dress code (formal business attire) and the age range of employees, from young graduates to those near retirement.

Finally, at this level, is the internal layout of cubicles, desks and offices. Most APS spaces are 'open planned' with waist-height partitions creating individual cubicles.

Photo 2 shows a part of the Core Team’s workspace. It shows the cubicles, with computers and the ubiquitous swivel chair on rollers. In the background are the executive offices, with glass walls and sliding doors, providing an insight into assumptions about space and status. Offices are only available to people above a certain level, and have movable walls so that if a person is promoted the “office size could be adjusted to reflect their new rank” (Schein & Schein, 2017, p. 94). This is fiercely enforced, with one office including a false wall because the person was not of a high enough level to be entitled to the whole room. The impact of office layout will be further discussed in detail in the interlude, Taking Note of Invisibilities.

**Photo 2. Core Team workspace**



**Espoused beliefs and values**, Schein’s second level, are prominent in the public persona of the organisation, and include the APS ‘values’ and ‘code of conduct’ (APSC, 2017b). Based on the Public Service Act (Counsel, 1999), these are displayed on departmental websites, and used frequently in public rhetoric.

The APS is a highly competitive culture, with strong rewards and punishments. This is partly accomplished through the use of arcane language and symbols (see the examples in 6.4.2-6.4.6 below), as well as accolades for conformists and derision for non-conformists. Linked to this is a clear set of historical heroes and villains. The heroes exemplify those who meet the high expectations of conformity to the espoused cultural values, whilst villains can be used along with other strong, tacit mechanisms to denigrate and exclude non-conformity. Embarrassment and fear

function as currency in competition, affecting performance, interactions, disputes, and the determination of status.

**Basic underlying assumptions**, Schein's third level of culture, are by definition tacit and invisible. In some cases, level 3 assumptions can be discerned by questioning either the espoused values (level 2) or exploring the observable cultural elements (level 1). An example of this in the APS is understanding the rhythms of time.

Compared with other organisations, movement of people within the APS can be observed to occur quickly and regularly. Staff frequently shift to other sections, branches, and sometimes departments, to acting positions or promotions. The timeline for the project (Figure 4) shows the comings and goings of the research participants, creating problems of continuity. This movement stands out to the outsider but is taken for granted by those within the organisation. It reflects an assumption of the importance for individuals to quickly progress up the career ladder and gain as much experience as possible.

There are also long-term, cyclical rhythms. The three-year election cycle for the Australian Government is an example, for which there is no equivalent in most other organisations I have worked with.

Also in play are the annual dates and times of the parliamentary year, including senate estimates, end of financial year, and parliament sitting days. There is also a big summer Christmas break that sees many people away from December to February. These rhythms are taken for granted by those deeply embedded in the culture, but can be a source of collisions for outsiders trying to engage with those within.

Shorter-term rhythms include such things as response times to ministerial requests and the constant round of meetings. Meetings are usually set strictly for an hour or sometimes two. In contrast, a lot of the work for the project required longer meetings, often up to three or four hours. This created problems for some people who found it difficult to accommodate working together like this for such lengths of time.

All of these rhythms reflect tacit assumptions about time, which are not obvious to, and create problems for, the outsider. It is expected that everyone will be aware of the parliamentary cycles and will organise their work to align with it. For an outsider to demand that the public servant conform to rhythms from the non-APS world would be unthinkable. In the following sections, I will seek to reveal other deeply held (level 3) assumptions and explore how they manifested in the following examples of cultural collisions.

In order to achieve this, I take as a starting point Schein's second level, espoused beliefs and values, and note that *The Public Service Act 1999* identifies five primary APS values: 'committed to service', 'ethical', 'respectful', 'accountable', and 'impartial' (Counsel, 1999, p. 8). These values are meant to represent the culture of the APS and are directed towards three types of relationships:

1. With the Government and the Parliament
2. With the Public
3. In the workplace (APSC, 2017b, p. 4).

Each example that follows relates to an APS cultural collision in one of these relationships, and also links with one or more of the APS *espoused* values.

#### **6.4.2 An APS collision with public discourse (macro to meso)**

I begin with an example of an organisation being affected by a collision with part of the macroculture in which it sits. It is between the APS and parts of the Australian media, with the latter's frequent negative stereotypic representations of public servants. An article in the Murdoch-owned press is typical, referencing "smug, entitled public servants [who] live high on the hog, with taxpayer funded massages, business class travel, gentleman's hours, high-class restaurants, and cafes on every corner" (Devine, 2017).

This comment aligns with recent research into public attitudes towards Australian public servants, which noted the following negative stereotypes attributed to the APS in newspapers, opinion pieces and editorials: leeches, freeloaders, inefficient, fat cat bureaucrats, and the enemies of enterprise (Whelan, Long, MacColl, & Lau, 2011, p. 18). This had led to an associated attack on Canberra, the capital city and

home of many of the APS agencies. This is so common that the phrase 'Canberra Bashing' was entered into the Australian Oxford Dictionary in 2013 (Heanue, 2017).

A full explanation of the reasons for these perceptions is beyond the scope of my research. However, I can describe the consequences of this constant negative barrage on those I worked with.

Observable collisions with public discourse were frequent during the project. This affected the attitudes of my participants in two ways. First, to demonstrate that these assumptions were untrue (a level 3 belief), staff worked harder (a level 1 behaviour) so as not to give an excuse for any further negative accusations. Second, there was a default defensiveness and paranoia about the public finding out about the project before it was completed and given to the government. "There is that risk that someone will go to the media and then all of a sudden, Government will say, 'What the frig are you doing? Close that down now'" (Arthur, Divisional Head). Related to this was the fear that the innovative nature of the project might 'give ammunition' to certain external entities, such as media, the Opposition, or lobby groups. These comments reflect the assumption that the public will have a negative view of the work of public servants.

This fear of exposure created a desire for 'bullet proof' perfection and a wariness in letting draft versions of project results get into the public sphere (I was often asked to rub content off whiteboards during discussions lest it be misconstrued or misused). The following highlights this attitude:

Q:\_So the potential risk of that paper going into various fora, you were concerned that some people were putting it out there in places that were probably not the wisest thing to do. [Craig]

A:\_Yeah, and not necessarily unwise for all time, but rather [a] haphazard approach and one that hadn't been kind of discussed within the group and sort of everyone's comfort level kind of test. And so, I mean I know that ... I feel like an idiot saying that because it's so contrary to some of the things that we were talking about in terms of it's very defensively bureaucratic and possibly dysfunctional, but ... but ... [Cindy, IDCG member]

In contrast to the public representation of the APS, my own experience was the opposite as described in the following account from my notes in October 2013. It



reflects a frenetic pace of activity and, in particular, the amount of work done whilst walking from one meeting to another.

Back in the office after a week's break. I feel I have missed some episodes and today I have been whisked from one impromptu meeting to another. Very 'West Wing'. I had barely entered the section at 8:00am when Penfold grabbed me and filled me in on the latest. Quickly grabbing a cup of tea and I ran into Arthur at the kitchen sink and he filled in another critical element, that he and Catherine had met with Brandis [the new Attorney General] last week, who expressed interest in what was happening. Back to Penfold and Bruce for more detail. While this was going on Catherine walked past and dragged me into her room for another update.

We continued to chat walking quickly to more meetings. As we began one meeting an evacuation alarm went off and we were hurried out of the building. As the Department has meeting rooms in an adjoining building we were able to go there. I didn't stop till about 5:30pm. Even lunch was a meeting.

Television shows such as 'The West Wing' often use a storytelling technique where characters have important conversations whilst walking quickly to their next destination. Conversations are often fast-paced and interrupted. This technique conveys the sense of frenetic busyness the characters face. Compared to any other work culture I have worked in, 'walk with me' describes my main experience of working on the A2J2 project.

### **6.4.3 A political collision (meso to meso and meso to micro)**

The Australian Government is part of the macroculture influencing the APS. The quote, "I have to call them illegals", from the critical moment at the start of this chapter, was one of many from the participants that demonstrated collisions between these two bodies. Two of the espoused values of the APS directly address issues on how relating to political parties, particularly the Government, should occur.

### *Committed to Service*

- 1.2.2 The Committed to Service Value provides for an APS that is professional, objective, innovative and efficient, that works collaboratively to achieve the best results for the Australian community and the Government.
- 1.2.3 The Directions about this Value require employees to encourage innovative thought and support innovative solutions. Employees should be open to good ideas, thinking beyond traditional boundaries and challenging the 'business as usual' approach. (APSC, 2017b, p. 1)

### *Impartial*

- 1.2.18 The Impartial Value provides for an APS that is apolitical and provides the Government with advice that is frank, honest, timely and based on the best available evidence.
- 1.2.19 Advice provided to the Government must also be:
  - a. objective and non-partisan
  - b. relevant, comprehensive and unaffected by fear of consequences, not withholding important facts or bad news
- 1.2.21 To uphold this Value when working with the Government, employees should provide forthright and professional advice; and develop robust and innovative options, supported with persuasive argument, good analysis and strong evidence. (APSC, 2017b, p. 2)

These quotes define a desired level 3 cultural DNA of impartiality, honesty, and frankness, unaffected by fear of consequences; while at the same time being innovative and thinking beyond traditional boundaries. In practice this created a tension for the project participants and sometimes put them at loggerheads with the two main political parties. Unlike the previous example, where public servants can (technically) ignore social commentators, these values, in a politicised environment, pose a dilemma. This is summed up well in this comment from a Core Team member:

They were duly elected by the people, so we should be responsive, but you know, in doing that, we are also frank and fearless and need to provide the Attorney or the Minister with reliable and accurate information. And so that's what we were doing, but we don't do that now. We kind of – we tailor our responses to the government because we know what the government wants. (Bruce)

The Organisation for Economic Co-operation and Development (OECD) recognises this dilemma, stating in a working paper:

In their quest for legitimacy, democratic regimes find themselves having to balance two values that can be in some tension: fair and non-politically partisan public service delivery and, subject to the law, the responsiveness of public servants to the policies of the current executive (Matheson, Manning, Arnould, & Weber, 2007, p. 5).

Elsewhere in the literature, these collisions have been labeled the ‘politicisation of the public service’, defined by Shandil (2017) as “the use of the public service for party-related purposes, and appointing, promoting and providing tenure to public servants through political influence” (p. 2). This shift from an impartial public service to a partisan one was a key concern of the participants, for exactly the reasons given by the OECD in their paper.

Neutrality, in the sense of political non-partisanship in public administration, is of course a precondition for ensuring that, regardless of their political orientation, citizens are treated fairly and in an equitable manner. Operationally it is delivered by emphasising professionalism, merit and competence amongst public servants. These values are important to the level of justice and continuity in public administration – arguably a significant determinant of how much trust citizens place in their system of government (Matheson et al., 2007, p. 5).

### **Assumptions reflected in politicised language**

An example that the IDCG members ran into was an assumption by the new government that APS members should change in their view of asylum seekers. The IDCG had identified youth in transition from government care (including asylum) as an example of where access to justice could be reconceptualised. There was unanimous agreement that these young people represented some of the most vulnerable in society and that the project could support the Government in producing better results for them. Therefore, it was a shock for members when the new Abbott government began enforcing language changes on the public service, shifting terminology from long-accepted neutral words to highly political ones. One newspaper at the time noted: “the new terminology is designed to *dehumanise* people” (Hall, 2013).

As an example, until this point IDCG members had been calling young asylum seekers ‘clients’, but had to now call them ‘illegals’ and ‘detainees’. This shift in

language became the interface of a strong cultural collision. It was opposed to the espoused values of the public service, and the personal beliefs of the APS in the project and was perceived by members of the IDCG as undermining their work.

### **Time and policy development**

Although the incident above was a stark example, participants identified a number of other ways the political parties were colliding with the espoused values of the APS. Arthur (Divisional Head) had set up the project to create a “legacy and example of how I think good public policy is made” (reflecting a level 3 motivation). He explained that spending time on policy development was “how it used to be done” but that in recent years the mantra from government had become “a quick decision is a good decision. [This leads to] governments forming major policy without the benefits of the APS”. This example reflects two opposing assumptions about the expertise and role of the APS. In the past, a public servant was recognised as a professional subject matter expert who could be relied on to come up with options for the government to work with after proper research. In contrast, a newer assumption was taking over: that public servants should quickly create an option that is in line with the government’s current agenda, thus acting more as a public relations group.

### **Risk aversion**

A number of members from the IDCG considered that the politicisation of the APS was leading to a level 3 core belief of the need for risk aversion. This aligns with the literature, where the foundation for this cultural shift has been linked to when public servants were now asked to “consider the government of the day and our Ministers as our key stakeholders, not the client” (Kingston, 2014, p. 5). The shift began with changes in employment, the abolition of tenure in 1995 (Shandil, 2017), and

when John Howard won government and sacked a raft of department heads in what became known as his “Night of the Long Knives.” This sent a shockwave through the public service and, in combination with a series of radical reforms to the public sector, accelerated a decline in its ability to make policy (Tingle, 2015, p. 22).

Consequently, there has been a fear that clearly supporting the government may help your career in the short term, but then lead to dismissal if the government changes. Over time this is having an effect on the culture of the APS, such that:

the periodic mass axing of public service heads upon the arrival of incoming conservative governments has created a caution in the culture. The bureaucracy has been cowed both by the prospect of being sacked and by a reward system which punishes taking risks (Tingle, 2015, p. 10).

#### **6.4.4 A collision with an external irritant (meso to micro)**

Individual outsiders often collide with the culture of the public service, and during the project I, myself, experienced many such collisions. For many public servants, ‘outsiders’ should ‘stay out’, and I have often felt the cultural discomfort of not belonging. I have often been asked pointed questions, “Are you in the right place?” or “Should you be here?” I have also had outright comments such as: “Your being here is not appropriate” and “If it were up to me you would not be allowed in here”.

During the project, Dolores was clear in her concern about my inclusion on the team. This was based in a deep cultural assumption of the importance of APS norms, and that neither I nor the project fitted within them.

We have our own hierarchies and people that we work to and so it's weird to have someone who's kind of not in and not out. I've certainly never been in a situation like that before where someone who's kind of not employed, and kind of there, and kind of an authority, but kind of not, do you know what I mean? (Delores)

Elements from all three levels of Schein’s model were activated in these collisions, and the severity of the consequences ranged from fairly benign to highly negative. For myself (at the observable level 1), I did not fit the dress code, language, behaviour, administrative structures, categories, or processes of the public service. My research also created some unique problems for the APS, as my role as action researcher could not be accommodated in any of the systems of the Department. This generated a series of rolling interdependent issues.

In each case I was treated in a *respectful manner* by the APS support personnel, a key espoused value (APSC, 2017b, p. 10), to such a degree that at times I felt embarrassed at the level of deference displayed by some of these staff. Solutions to my 'miss-fit' were found through either new categories and processes being created, or current ones amended. In a short space of time I had a contract, an office, a car space, and a building access card. So, in this instance the collisions were resolved through bending the rules and accommodating the irritant. On this point Schein's three levels came into alignment: the espoused value of respect (level 2) manifested in actual accommodation of my oddness (level 1), reflecting an actual (level 3) assumption on the part of these workers about treating people respectfully. This example would be seen by some authors as uncharacteristic of the public service (DeHart-Davis, 2007) and leads us to the next, more serious, collision.

### **Security as an expression of cultural protection**

My role as facilitator/researcher was perceived as a major issue for some in the project. This was particularly observable at the beginning and end of my time in the project, and exemplified as level 1 collisions with the physical boundaries of the culture: the security stations at building entrances.

All APS buildings have highly visible levels of security that operate as artefacts, in terms of both objects and behaviours. It is not possible to just walk into these work spaces. To enter any of the buildings a visitor must be signed in by a suitable authority. Linked to the entry boundary is another artefact of exclusion, the ubiquitous lanyard hanging from the necks of staff. Each holds an electronic card that determines access to specific areas of the building. The visitor's lanyard clearly marks them as an 'outsider', with restricted access and a requirement to be accompanied by an appropriate staff member, often even to the toilet.

In contrast to the polite and friendly support staff, my experience of general APS staff is that they tend to have a cold and suspicious demeanor towards the outsider, until those suspicions are assuaged. In comparison, most of my clients from private organisations tend towards initial friendliness unless something triggers a more negative response. So, it appeared to me that the APS culture has a default

assumption (level 3) of expecting a collision with an outsider until they prove themselves.

During the project, this cultural characteristic of concern with an outsider increased towards me from some of the participants. Dolores, a later addition to the Core Team, expressed clearly to all (including me) her disapproval of my involvement. As Bruce relayed to me, “she didn’t like an outsider, a non-public servant, coming in and giving advice on public service type issues”. He went on to say of her:

She didn’t like the way the project was run. She was also a pretty old school public servant so she thinks you’ve got to follow structures and do things a particular way, and I think in some ways, the project sat outside of that kind of model, and so I think it’s fair to say she was kind of just quite public service conservative type. (Bruce)

Dolores’ concerns with the project and my inclusion in it are helpful here, as she explains some of the deep underlying assumptions of the APS, representing herself as a “quintessential public servant”. Stating in interviews that she is “more conventional - look I’m a public servant and I’m cynical, please forgive me”, her bluntness and self-awareness meant that ideas were expressed that I might never have heard otherwise.

My overall view of Dolores is positive. She was respectful and polite and her views were consistent with what other APS members have said to me before about external consultants. As such she provides a solid basis for understanding the APS culture from the inside looking out. The most obvious cultural characteristic (level 1) I noted in Dolores was passion; for the public she serves: “their situations keep me up at night”; for her staff: “it’s a very high functioning team, I don’t know if [Catherine] knows how good a team she’s got”; and for being the best public servant she could be. She summed up her approach under pressure with the following comment:

I’ll tell you what I’ve been doing as a good public servant, shall I? I will continue to work on this until I’m told to stop, I mean seriously and that is - I’ve learnt that attitude. So my attitude is, I will write the best possible paper I can. So I guess my strategy is very much until I’m told stop doing it, I’ll do the best job I can.

This level 1 behaviour both aligns with the level 2 espoused value, 'Committed to Service', and demonstrates deep level 3 assumptions about the importance of serving the public well, with commitment and integrity.

However, this passion was also directed negatively at anything that was perceived as a threat to good public service, such as an outside consultant. Her problems with me were not personal, describing me as "the best facilitator I've ever seen, and I've seen a lot in 25 years". Rather, the core of her concern was about both me and the project not fitting within APS norms.

The importance of *APS norms* is an essential underlying assumption and explains her other concerns with the project. This included the assumption that you should "stay in your own patch". She felt I was "straying into territory that's not yours ... Now maybe, again, it's maybe siloed behaviour, but the reality is, you know, we're in this department, responsible for these certain things." She also expressed concerns around the nature of the research, addressed in Chapter 5, innovative ideas, addressed in Chapter 3, and questions about the personality types of the leadership of the project, considered in Chapter 4.

On the last day of my time with the project, the issue of security re-emerged, giving suitable closure for removing the irritant of an outsider. After I said goodbye to team members, Dolores demanded my lanyard, and without thinking I handed it over. I was now unable to leave the building or get my car out of the parking area. My identity had been removed and it took close on an hour for everything to be sorted out and for me to be able to leave, with my car. She had very effectively stated that I did not belong.

#### **6.4.5 An APS collision with small private entities (meso to micro)**

This example highlights what can happen when APS culture collides with the culture of small private organisations, particularly around the speed at which change can be expected to occur. It was late August in Canberra on the final day of the three-and-a-half-day Roundtable<sup>56</sup>. We were all exhausted but excited. This diverse group of

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<sup>56</sup> The structure and role of the roundtable was described in Chapter 1 and will be discussed in full  
*Chapter 6: Incompatible Organisational Cultures*



twenty-five people had together tackled the problem of youth effectively dropping off the radar when leaving government care.

As we summed up and closed the Roundtable, Catherine thanked those involved and tried to set expectations. She explained that as this was part of the A2J2 project it may be some time before we would be able to progress any of the other great ideas that had emerged during the Roundtable. I noticed a couple of people sniggering and whispering to each other, so I asked them what they were thinking. The response floored those of us from the team.

To the vigorous nodding of others, a man from the Wayside Chapel<sup>57</sup> told us that although he appreciated the constraints that Catherine and the team faced, he did not belong to a government agency. Therefore, he declared that he would be implementing the ideas from the Roundtable the following week. Others then jumped in to explain how they too would be implementing new ideas as soon as they returned to work.

This comment demonstrates that public and private cultures can be incompatible due to running on different assumptions about time. This is reflected in speed (as here) but also in different rhythms of time, such as parliamentary sitting days.

Second, differences in underlying assumptions about hierarchy and control can make collaborations difficult. This was clearly demonstrated by the responses of the research groups employed. The TACSI people were frustrated that their clear findings were getting buried under layers of clearance and bounced around the IDCG for approval. TACSI held an assumption that good organisations should be agile. In contrast the APS assumption was that good organisations should be careful.

Related to both of these cultural differences was a clear difference in priorities (level 3). The Roundtable highlighted the 'client' focus of the private cultures in contrast to the 'minister' focus of the public servants. Finally, there were clear differences in

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in Chapter 8: A Symphony of Worlds.

<sup>57</sup> A well-known charity based in King's Cross, Sydney, Australia.

what I would describe as the level of ‘uptightness’, which leads me to the next section.

#### **6.4.6 Collisions of individual to self (meso to micro)**

The IDCG was created for the A2J2 project and quickly developed its own ‘microculture’ that was seen by its members as being very different to what they experienced in their own departments (mesoculture). A summary of how this group viewed itself came from Ethel, one of the people from the (then) Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA):

Pushing the envelope [in the IDCG] was fun because it was done in a way that didn’t raise hackles or prickles. It was genuinely looking for that better outcome. We were all part of the same thing. I think building that relationship over time and having the same group of people around the table for a long time. And there was a sense of fun about it, there was a bit of humour and there was a, not traipsing over the same old policy routine but actually trying to break that policy routine and find something new. That’s what I think we found. Which was strange, because the APS doesn’t do fun. There was a little bit of a gee whiz factor in there, a bright idea, a new idea. When we left and we were on our ways to our cars in Barton ... we used to stand out of the front of your building for about another 15 minutes and talk about what we found really interesting in the session.

Ethel’s comment “the APS doesn’t do fun” was typical of the views of members of the IDCG. The group met monthly, over lunch and a few hours following. Most members had long histories of working in multiple interdepartmental committees, but the IDCG stood out for them as something different and new, having a very different subculture from what they were used to. Almost all members of the IDCG were senior executives from multiple federal agencies, including the departments of Attorney General’s; Prime Minister and Cabinet (PM&C); Treasury; Human Services; FaHCSIA; Education, Employment and Workplace Relations (DEEWR); Immigration; Health; as well as APSC and DesignGov.

The most common collision spoken about by members of the IDCG was their own experience of living in two incompatible cultural worlds; an internal individual

collision between their normal APS identity and the one they had grown used to in the IDCG. This resulted in dissonance. APS espoused values were being lived out in the IDCG, but this was seen as novel and countercultural to the usual lived experience in the APS, reflecting a different set of underlying basic assumptions.

In general, the project was seen as unique and required participants “to think in non-public service ways”, with Dolores commenting: “I guess like everyone else I've simply adapted to the weirdness [*laughs*]”. So the collision between the IDCG microculture and the APS mesoculture was a collision between ‘normal’ and ‘weird’. Table 16 presents a comparison of key cultural differences noted in the interview transcripts that created tensions for IDCG members.

**Table 16. Comparison of cultural characteristics**

APS Value	Interdepartmental Collaboration Group [IDCG]	Australian Federal Public Service [APS]
<b>Collaboration</b>	Collaboration	Patch protection
	Process	Content
	Long meeting times	Short meeting times
	Committed to Whole of Government	Committed to silo
<b>Innovation</b>	Innovation	Defend business as usual
	Purpose	Tradition
	Ambiguity	Structure
	Freedom	Constraints
<b>Treat people with dignity and value</b>	Equality	Hierarchy and status
	Relational	Systems
	Informal	Formal
	Genuine	Political/calculated
	Fun	Serious
<b>Impartial</b>	Frank and honest	Embarrassment and fear
	Continuity	Churn

All of these tensions were interrelated and anchored by a conflicting pair of basic assumptions: ‘working collaboratively’, versus ‘defending one’s own patch’ or ‘committed to silos’. Siloed behaviour was seen as a natural cultural fit for the APS. “We’re all stuck in the silo,” (Penfold), or as one senior executive said, “never

discount the capacity of the bureaucracy within the Department to silo” (Percy). Another comment made in passing was, “Craig, my silos have silos”. In Schein’s language, silos are a manifestation of the organisation’s DNA, whereas collaboration is not. This is due in part to the original purposes of agencies, because “existing public sector institutions and structures were, by and large, not designed with a primary goal of supporting collaborative inter-organisational work” (APSC, 2007, p. 17).

Other factors reinforcing the siloing tendency include the structural and authority divisions between and within agencies (Carey et al., 2017). Thus, your silo becomes your ‘patch’. Dolores was one of many who saw ‘protecting your patch’ as part of the responsibility of a public servant.

Now maybe, again, it's maybe siloed behaviour, but the reality is, you know, we're in this department, responsible for these certain things ... whether we like it or not, why on earth would you start straying into territory that ... is not yours in a Commonwealth sense.

‘Territory’ was a commonly used term in the interviews along with ‘patch’. Patches need to be ‘defended’, ‘fought for’ and ‘looked after’. A person should not ‘enter’, ‘stray into’, or ‘traipse across’ another person’s space. If they do, they will be ‘chased out’ or it could lead to ‘tribal wars’ over who is responsible for the content of that territory.

Others considered siloes as partly a result of different “organisational cultures ... where they say, this is the box of what we do” (Ella). Anything outside of your patch, then, “well, that’s *somebody else’s problem*, we don’t have to deal with that” (Ella), an attitude so well known that Adams (1990, pp. 329-336) described it as an ‘SEP field’.

Adding to siloed attitudes and behaviour are isolated IT systems: “You know, there’s the fact that we’re all running different computer systems, different information management. We can’t even share addresses between each other” (Fletch). All of these factors give rise to an identification with the silo a person represents. As Ella said, “people are often kind of still in that mentality of being, ‘I’m Centrelink, you’re Medicare’, or vice versa, and they have very strong identity”. So given the deep

cultural basis for siloes, why try to change the status quo and develop a culture of collaboration?

There were a number of reasons to promote a collaborative counterculture through the IDCG. The first was the “diminishing resources across government, both Commonwealth and State” given as a main reason for the approval of the A2J2 project by the Secretary and Deputy Secretary. Percy (Deputy Secretary) explained:

we just can't any longer sit in little silos either within the Department or in dealing with the rest of the Commonwealth bureaucracy and work away without trying to join up. And this was a project that from its very inception was all about joining up. That's what's at its core.

So there was a need to ‘join up’ issues across the APS to create efficiencies in dealing with ‘whole of government’ goals (Management Advisory Committee, 2004). Directly connected to this is the recognition that a growing number of issues “cannot be resolved by a department alone and yet we have a system that is still optimised at a department level” (Elias). These issues are often ‘wicked problems’ (APSC, 2007) that require collaboration between stakeholders to be adequately addressed (Carey et al., 2017). Consequently, in the APS Code of Conduct, collaboration is presented as a key element of the APS values of ‘Committed to Service’, and ‘Respectful’ (APSC, 2017b). However, in practice it is recognised that “the skills of collaboration are in limited supply” in the APS (APSC, 2007, p. 10).

It is possible to say that collaboration became a part of the IDCG’s DNA (Schein’s level 3) because it was overtly set up for that purpose. Its origin also led to other cultural characteristics that noticeably contrasted with other IDCs. Jane’s comment was typical: “I found it far more evolving and open ... quite engaging and different to how a lot of collaborations might generally play out”. Here is Kendra’s summary of the difference between a normal IDC and the IDCG:

So my experience of IDCs hasn't necessarily been a positive one in that we are not all there to try, well, compromise or find the best outcome for the Commonwealth as a whole, but for agencies to position themselves and get the best outcome for their own agencies.

This new IDCG culture was so successful for members that it affected other parts of their work.

We would talk about the A2J2 stuff and how interesting it was and how it was influencing what we were doing in our other collaborations. We all felt that we were working so well together as a result of A2J2 stuff and so comfortable working with each other and generating such really interesting ideas. And so it meant that ... we went into somebody else's space at [another] collaboration group quite confidently and unashamedly and suggested that this was the way you could open up the issue. I think it was very challenging on the day but that group have now taken it forward in the way in which we suggested. (Ethel)

So if the IDCG culture was appreciated, why were members feeling a dissonance? In interviews, various reasons were given. Jacinta from PM&C felt that "we spent a lot of time talking about the problems that are really, really important to government, but the time spent for the outcome produced with the level of people that have basically been involved, was a *complete luxury*".

Others felt their *loyalties stretched*, with Cindy saying that she could "feel myself slipping back into my old ways, looking out for the Department". Her comment related to a later part of the project when everyone was asked to contribute to a report. "Herein lies one of the huge impediments to collaboration: *release of information, privacy and secrecy laws*" (Ella). Fear had also crept into the IDCG as there were major political changes occurring in the background in this latter phase of the project. The new coalition government was cutting thousands of public servants and people everywhere were retreating and protecting their patch. Dolores was writing up the report and suddenly found that "they won't give anything away, they *won't commit to anything*, and most of them don't seem to be on board at all." Over time the incompatible characteristics of the lived APS culture reemerged to stifle the gains that had been achieved during the project. So, by the end of the project most of the IDCG members were back within their more traditional APS culture.

## 6.5 Weaving the warp and the weft

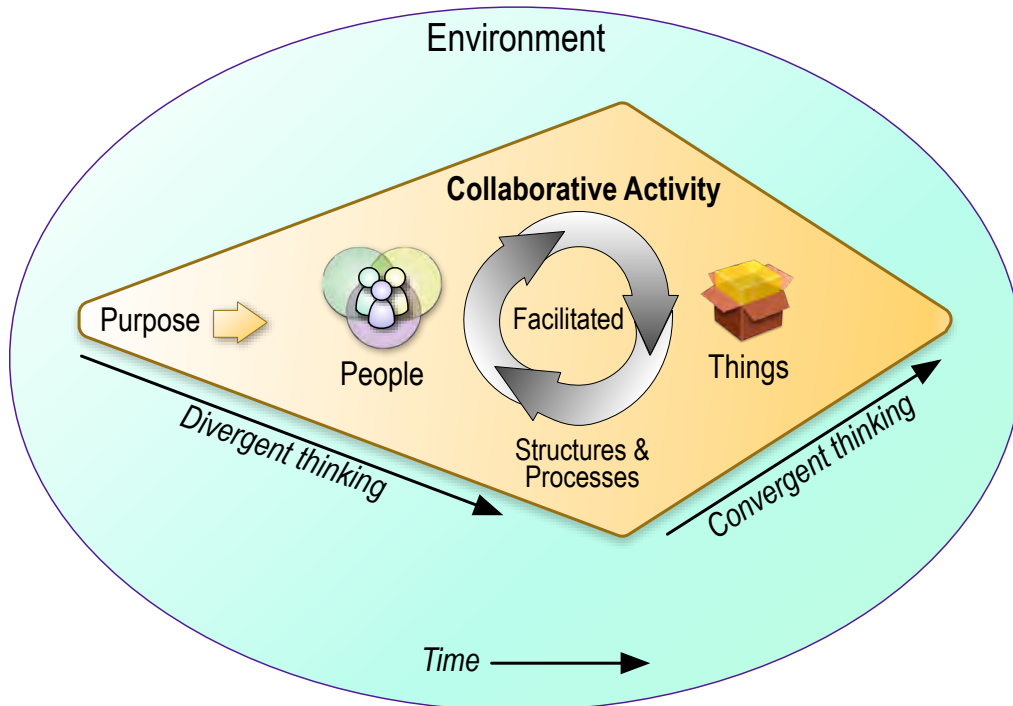
Since compatible cultures are essential to tackling wicked problems, in this section I use as a springboard the final example discussed above. I aim to answer the question, how did the IDCG achieve a culture that supported collaboration and dissolved many of the ingrained patterns normative for the APS? Chandler (2017) has defined a collaborative as “a group made up of multiple stakeholders, organizations, and community representatives that is attempting to work as a common entity with the goal of problem solving” (p. 133). I see in this type of collaboration an equivalence to my definition of transcoherence.

Developing a culture of collaboration was not achieved by luck, but was a deliberate output the IDCG aimed for. The team actively put into place many factors, and other factors serendipitously emerged to support our goals. These factors were placed in a model, a part of which is shown in Figure 36. It developed through multiple versions over a year, with input from IDCG members, with reference to the literature on collaboration, and my own reflections. At each meeting I would present the current version of the collaboration model to the group for feedback, critique and changes.

### 6.5.1 Promoting a collaborative (transcoherence) counter culture

The collaboration model (Figure 36) was a precursor to my transcoherence model (Core Visual Heuristic C.2) and shares many of its elements. It has an outer circle signifying the broad *environmental context*, which is equivalent to Schein’s *macrocultural context* and my *field*. The centre contains factors related to collaborative activities. The process as a whole moves from left to right over time, from an initial trigger to the final outcomes and output. The shape of this central element signifies the divergent thinking of the collaboration, until the latter part of the project, when it relied on convergent thinking. Each element of the model relates to the A2J2 project as follows.

**Figure 36. Collaborative success factors model adapted from the IDCG**



## Environment

**Leadership** was an important aspect for setting up the environment to allow the project to create its own innovative and collaborative culture. This aligns with Schein’s claims about the importance of leadership in the embryonic stages of cultural development (Schein & Schein, 2017, Chapt. 8). It can be seen from earlier interview quotes that those in positions of seniority actively sculpted the culture of the project from the block of the espoused APS values. Part of the role of leaders was to give Catherine room to develop the project her way, including taking risks. This was seen as key to success by one member, who commented that the “collaborations that work best are those where the ‘Eye of Sauron’ is not on you” (Casey, FaHCSIA), an allusion to the scary, evil enemy from Tolkein’s *Lord of the Rings*.

**Timing**, a second aspect of the environment, was crucial. Choosing to run the project for a year and finish it after the election guaranteed that it would not be immediately dismissed by an incoming government. Having time to work comprehensively was a constant collaborative success factor mentioned by IDCG members in interviews. An associated time factor was holding the meetings over lunch and using a high-quality neutral venue. These are some of the supporting ‘invisibles’ that we designed for the project and are discussed in the interlude, ‘Taking Note of Invisibilities’.



**Systems** include the background communication, governance, political, and physical systems that the IDCG worked with and within. These factors acted as the immediate stage upon which the collaborative activities took place.

### **Collaborative activities**

The central element in the model represents the actual collaborative activities over time. We thought about and designed the factors in this element at great length, changing our design as we learnt more throughout the project.

**Purpose:** This factor was mentioned frequently in the interviews. Members considered it important that we were both broadly clear on our purpose, but also granted sufficient ambiguity to allow the group to grow and change as it learned. This is a key cultural element from Schein's perspective.

**People:** The importance of the selection of members is described in Chapter 1. Each person exhibited cultural characteristics that represent some of the finest qualities of the espoused values of the APS and were also able to engage with others collaboratively.

We discovered that members had other characteristics in common, the most important being their capacity to operate across silos in their own departments either formally or informally. For example, Ethel described her role as:

*a knitter or weaver which means that I'm expected to be able to cope with ambiguity, to move across areas and not be too worried about the silos. So I'm actually tasked with moving across silos and working as well in one kind of area as another, and not worrying about the fact that I'm in someone else's space.*

Although her position was formal, others were informally recognised in their departments as having a similar role. This kind of role was often linked to a non-public service mindset of openness and continual learning. These "people aren't sort of fixed in the public service mindset because I think they're still learning and that sort of stuff" (Geoff). "So maybe we start with the mindset. The mindset should be, you know, kind of Australia first, the APS second, kind of, my department somewhere down the line" (Elias).

This aligns with recent research into the APS, which found that those roles termed ‘boundary spanners’ – “people or groups that work across departments or sectors – are critical to the success of whole of government and joined-up working” (Carey et al., 2017, p. 176). The authors note that the informal roles adopted by some individuals encourage collaboration “between divergent worlds” (p. 180). Characteristics of boundary spanners, as well as ‘T’-shaped experts, and evident in the IDCG members, include the capacity to:

- build sustainable and effective relationships and networks
- communicate and listen ‘deeply’
- understand, empathise with multiple perspectives, and resolve conflict
- build trust and broker solutions between different parties
- manage through influence and negotiation (P. Williams, 2002).

*Continuity of people:* usually in an IDC there would be a frequent turnover of people, passing their place on to someone new. In the IDCG we asked members to commit to the group for the length of the project where possible. This enabled a common experience and growth of the microculture, as Schein predicts in his model. How cohesive a collective we had formed was shown when a group of three people from a new agency turned up to meetings late in the project. Although they brought with them the standard patch-protecting APS culture, I had little mediating to do, as all the original members acted with one mind. Nothing was said explicitly, but a common gentle response was directed at the newcomers, encouraging them to relax and interact in a genuine manner.

**Structures, Processes and Things:** We spent a lot of time and energy designing the use of these factors. They will be addressed in detail in the interlude, ‘Taking Note of Invisibilities’ and Chapter 8 ‘A Symphony of Worlds’, but a few comments are required here to complete this section. With reference to the iceberg model (Figure 35), we used artefacts, processes, and even the physical layout of the rooms to promote the desired IDCG culture. This is shown on the model as the dotted white arrows pointing deeper.

This differs from Schein's model, but he has recently shifted his position on this. He now considers that changing behaviour, structures and processes can support cultural change, but adds that "behavior change alone will not last unless it is accompanied by cognitive redefinition" (Schein & Schein, 2017, p. 334). This concept is similar to my idea of coherence transformation that requires a reorganisation of the pattern of anchor points into a new and viable gestalt. It is also closer to the growing literature linking culture and socio-material thinking (Epstein, 2008; Fenwick et al., 2011; Werle & Seidl, 2015), with its "attention to material objects, and its commitment to rethinking divides between the instrumental and the expressive and between nature and culture" (Epstein, 2008, p. 165). Particularly unique in the project was placing facilitation in the centre of this mix.

**Facilitation:** The concept of facilitation is a key part of the model, but it will be discussed in detail in the following interlude, 'Reflecting on Catalytic Facilitation'. Therefore, I will only make brief comment here as to how it directly relates to collisions of culture. IDCG members all spoke of the essential role a facilitator played in the success of the collaboration, clearly differentiating it from the more traditional 'chair'. A number of reasons were given for this, Cindy providing a representative summary:

Q: Do you think it was an advantage for our collaboration group to have an external facilitator?

A: I do, I do. I think it's been very advantageous, because first of all it immediately eliminates any sense of the chair trying to beat everyone over the head into achieving a particular outcome. And no matter how sensitive to and how highly people-skilled individuals can be, it does sometimes feel like that, particularly when you are talking about money, as you often are. So I felt it just kind of set the tone of all the participants being equals, very quickly, and having an equal stake and an equal interest.

Setting the 'tone', 'feeling', or 'mood' of the meetings was frequently mentioned by members, often linked to creating a 'safe atmosphere' and 'comfortable rhythm'. Facilitation was recognised as a particular skill and profession and having an 'external', 'independent' facilitator 'freed' members from "trying to jump in and pretend you know how to do it" (Amber).

For others a facilitator protected and supported the collaborative process.

In terms of external facilitation by someone outside the system, I think it's critical. I just think it's critical to keep a degree of discipline and a degree of thinking and a degree of progress, and someone who's not caught up by the way the public service solves problems. (Elias)

Jane agreed: "Whilst we've had you facilitating such a good process, we've been able to have this organic process". A key part of this process was to "bring all of these disparate groups together from different places and spaces" (Ethel), as well as "making sure you don't go off on your own little agenda" (Fletch). Jacinta noted that "the skills involved in facilitation are rare within the Public Service". As a final note on process, Elias expressed the thought that "you need external facilitation to think in a new way about things".


## **6.6 Conclusion**

Each chapter in this second movement identifies a particular type of collision of collective coherence. There has been a development from the simpler micro-collisions of ideas in Chapter 3, through to this chapter's focus on the complex collisions of organisational cultures. This cultural complexity incorporates most of the elements of my model of collective coherence. In the same way, trying to build a collaborative culture to deal with these collisions identified a similar set of factors as in my model of transcoherence.

I have utilised Schein's work (described in the warp) to help make sense of the entangled lived experience described in the weft. He offers a theoretical framework that both explains the nature of these collisions and creates a structure for identifying the different types of cultural conflicts. I have used his concept of cultural scale to map out the different sized groups in the project and their related cultures. From his concept of vertical levels of cultural elements, I have created an iceberg diagram that can be used for detailed analysis of a specific culture. In Table 17, I identified twelve main organisational culture collisions in the A2J2 project. Using these examples, I was able to create cultural profiles of different groups by sorting my data into Schein's levels. This showed conflicts at all three levels of the iceberg model.

The weaving section of this chapter used the IDCG collaborative success factors to show how a transcoherent group can be developed and sustained. This also highlighted the conflict people felt within themselves between the day-to-day culture of their own department and the newly developed transcoherent team culture of the IDCG. Many of the collaborative factors were *invisible* to many of the participants and yet were crucial for developing transcoherence. In the next interlude, I will explore further these *invisibles*.





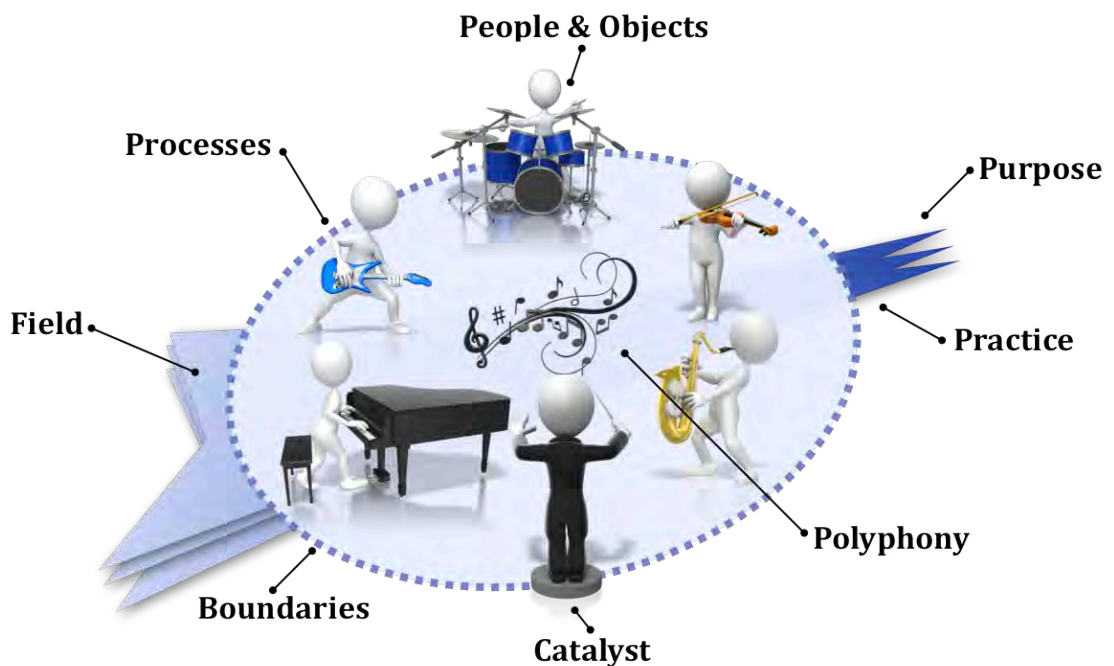
## Interlude: Taking Note of Invisibles

### *Introduction*

Our life is full of invisibility that exerts power on our acts, relationships, and construction of the self (Komatsu, 2017, p. 14).

In this interlude I contend that many things are *invisible* to humans, yet still impact on how we relate to each other. I am particularly interested in how these invisibles can either exacerbate collisions of collective coherence or promote transcoherence. As usual in an interlude, I refer to relevant literature, but this time I also draw on interviews from two of my research participants who have expertise in this area. Consequently, this interlude will be a bit longer than others. The ideas in this interlude are relevant to the whole thesis but have strong connections to the theories of organisational culture and social fields, hence its location here. To ground the interlude, I begin with another version of my transcoherence visual model, Core Visual Heuristic C.7.

#### **Core Visual Heuristic C.7.      *Potential transcoherence invisibles***



The elements are the same as my other transcoherence graphics but the focus differs slightly. Here I am interested in how the elements are bound together in a particular pattern that can be considered a *sociomaterial assemblage*. *Sociomaterial* is defined here as the “constitutive entanglement of the social and the material in everyday life” (Orlikowski, 2007, p. 1435). Not all the elements in an assemblage are visible, but they all enable and constrain different forms of interaction (Van Note Chism, 2002). It is possible to adapt inherited sociomaterial assemblages by reassembling the elements in new ways to improve a situation. However, this requires identifying the elements, a difficult task if some elements remain invisible. Therefore, my goal in this interlude is to describe ways that groups can take note of invisible things to change their impact. Before looking at examples, I will briefly explain what I mean by invisibility.

## ***Invisibility***

I am focused on things being functionally invisible, where “observers look but do not see” (Greene, Murphy, & Januszewski, 2017, p. 431). Each of the following groupings identify a different aspect of functional invisibility. One reason given for invisibility is **limited human perceptual capacity**. Known as *load theory*, this claims that “high perceptual load has been shown to induce inattentive blindness, whereby participants fail to report awareness of clearly visible stimuli” (p. 431).

***The tacit***, introduced in an earlier interlude, is relevant in the sense of being unnoticed or unspoken. This may be due to things being *below-view* - related to the unconscious, “unattended to as we operate in the world, but integral to our performance as social creatures” (Zappavigna, 2013, p. 2); *backgrounded* - where ideas have become submerged as cultural norms or naturalised (Pearce, Down, & Moore, 2008); or *taken for granted* - where our immersion in a context leads us to assume everybody knows what we know and therefore it requires no comment (Ribeiro, 2012).

***Salience***, the quality of being noticeable, standing out, or prominent is also inversely relevant. Something can be invisible if it is not salient. This may just mean something is *unnoticed* - “the failure to notice or recognise an unexpected object when attention is engaged on some primary task” (Kreitz, Furley, Memmert, & Simons, 2016, p.



386); *ignored* (Smithson, 1991); *camouflaged* - where something is unnoticed because it is obscured, blending into the background (Argyris, 1977); or *extraneous* - outside a person's coherence, where something is not part of the conceptualised reality (Law, 2004).

**Value**, the social priority of things, can make some things functionally invisible because they are *unimportant* (Hatton, 2017); *somebody else's problem (SEP)* - A demarcation of responsibility, that implies a justification for not having to care about an issue (Adams, 1990); or *behind the scene* - the work done out of sight, often in preparation, that is considered menial and not of high value (Hatton, 2017).

None of these types of functional invisibility are negative by definition. Our limited perceptual capacity and working memory means we cannot keep everything explicit and visible. Things often become visible only when we feel they need to change. In this case, to reduce collisions of collective coherence will require a process of making visible the relevant invisible sociomaterial elements. Having taken note of an invisibility, it is possible to design and rearrange the elements to support transcoherence. The new arrangement can then itself gradually slide into invisibility. The rest of this interlude uses practical examples from the project to demonstrate this process, with support from relevant literature. To begin I return to Core Visual Heuristic C.7, and consider the field where we meet.

### ***The field: where we meet***

This section considers potential invisibilities associated with the environment where people meet. This includes the space/time context, that which Isaacs (1999) calls the *architecture of the invisible* (p. 233). He more recently claims that “with a well-designed dialogue ‘container’, you can create an atmosphere of shared awareness that can transform an organization — or a country” (Isaacs, 2017, p. 1).

Included in the field is the venue, often *taken for granted* or *unimportant* and managed by someone *behind the scene* who has limited knowledge of what is required for the event. Consequently, these places are often inhospitable for the purpose of the meeting. For example, over the last thirty years I have been expected to facilitate in the following ‘venues’: massive halls for small numbers, small hotel

rooms for large numbers, tin sheds, hallways, company boardrooms, top-secret facilities, airport lounges, and restaurants. None of these places was appropriate for the proposed event but they were commonly used by the person organising it. Few of the organisers had ever considered the disadvantages of the venue chosen, or that by changing venues their meeting would be more effective. Then I met Sharlene.

## A venue named 'Dialogue'

Serendipitously, at the time my research started, a new venue opened on the bottom floor of the A2J2 building. Initially sceptical, after using it a few times I was amazed at how hospitable it was for facilitated dialogue. Others also noticed, with most of my research participants making unsolicited positive comments about it in their interviews. So I chatted with, and then formally interviewed, the manager, uncovering why the venue worked so well and how unique it was.

Named 'Dialogue', it was designed to be "conducive to a kind of open conversation" (Sharlene - Dialogue Manager). The owner company has multiple buildings in the local area and chose to provide amenity for their tenants by setting aside the whole bottom floor of one of the buildings. The area included both a meeting space and an eating space, the latter providing catering for the former. Unlike most of the nearby hotels, the purpose of the venue was to create a *third space*, not home or work, but a new place for "openness, communication, facilitation, learning, and especially dialogue" (Sharlene).

The manager, Sharlene, was brought in at the start to take the concept and turn it into a "living, breathing, operating asset that had warmth and a strong engagement with our community and stakeholders in the area". With feedback from tenants, they designed a *customer-centric approach* that offered *space, equipment and service combined*. How unusual this was became clear when looking at the details.

To create "a space that is open, that is a warm environment, that is fresh, where there's lot of natural light that is conducive to open kinds of conversation" the rooms were designed with one or more walls consisting of glass panels from floor to ceiling. Outside was a Japanese maple garden, while inside each room had "automatic

sensored airconditioning and dimming lights”. Photo 3 shows one of the rooms we used often.

**Photo 3. One of the meeting rooms in the venue Dialogue.**



So why does this approach work so well? Primarily because of the complex, multifaceted way humans understand the world around them. V. A. Brown and Harris (2014) contend that humans do not understand and make sense of their world in only one way. Rather, as multifaceted beings situated in complex environments, we have multiple innate ways of understanding, all operating simultaneously.

The importance of considering multiple ways of understanding will be dealt with in detail in Chapter 8: A Symphony of Worlds, but some preliminary comments can be made here. If we begin with an assumption that “physically, mentally, emotionally and (for some of us) spiritually, humans are an indivisible part of the very environment, landscape and universe in which we exist and function” (Massy, 2017, p. 313), then this total ecosystem will impact on us when we meet. Massy explores the agricultural and health consequences of not treating humans as an integral part of the ecosystems they live in, but his insights are also relevant when looking at a highly urbanised ecosystem such as a meeting venue.

We are hard-wired to sense and respond to our environment (Massy, 2017). We do this through the five most commonly recognised of our physical senses: sight, sound, smell, touch, and taste. These often work together ‘invisibly’ and are combined with less well known senses, including awareness of our position (proprioception), balance (equilibrioception), vibrations (mechanoreception), temperature (thermoception), and the passage of time (chronoception) (Sierra et al., 2017, p. 9). Subconsciously we respond to this combination of sensory input, subsequently affecting how we relate to others in that environment.

Beyond the immediate senses, Isaacs (1999, p. 233) considers less tangible ideas such as a *sense of space*. Other authors speak of the importance of creating a *safe relational space* (Schwartz & Conklin, 2014) that promotes openness and the expression of divergent perspectives. Psychological safety is also linked to process elements in the model such as confidentiality (Ellinor & Gerard, 1998, pp. 186-187).

Catering can be another part of the invisible environment.

Food and drink are important cultural artefacts, integral to cultural identity, combining sensory and symbolic aspects and evoking powerful meanings and value associations. They have the power to evoke cognitive and behavioural aspects of culture in very specific ways. Food and drink are part of both cultural identity and the physical body, and, in diverse teams, have the potential to serve as barrier or bridge between cultures, hindering or facilitating team performance (Means, MacKenzie Davey, & Dewe, 2015, p. 2)

Catering brings almost all of the categories of potential invisibility into play. The provision of some form of refreshment is part of the *taken for granted, backgrounded* cultural norms that operate *subconsciously* when people meet. Food is often *unnoticed* unless it is of poor quality. Yet food and drink can also be considered *unimportant* in a meeting setting and therefore organising the catering is often handed off to *somebody else* and done *behind the scene*.

In my experience, catering often reflects the invisibility of being *unimportant*, and can result in a strong negative impact on the meeting. The worst example was a government department that organised an entire day’s training in a room with no water and no access to cups, as any food or drink were seen as *extraneous* to the activity and possibly distracting. Participants were forced to walk down the street

to buy bottled water and something to eat. This created an aggravated and hostile environment inhospitable to collaboration.

In contrast, the Dialogue venue was linked to a cafe, integrating the catering with the venue space. Sharlene also noted that their customer-centric approach made a number of catering issues visible that would otherwise have gone *unnoticed*. Originally, only instant coffee and cheap tea bags were supplied, so getting a decent coffee meant leaving the venue. After strong feedback, the owners invested \$10,000 in self-serve espresso machines and Twinings tea stations. This was important in our meetings as most people wanted high quality coffee or tea and this allowed them to quickly get a drink and then re-engage in the discussion.

The food provided was also different from most venues, so I interviewed one of the caterers, Tony. He explained that he used the information from the booking to tailor the food and drink appropriately, taking into account gender and age, as well as the length and purpose of the meeting. He also considered the time of day, the weather, and whether the participants had flown in from interstate. Finally, food offered for different dietary requirements was of the same high standard, interesting and tasty. We found that people looked forward to the lunches and coffee breaks, with positive comments on the catering appearing in most of my interviews. Food and drink can also operate as boundary objects, as we shall see in the second group of potential invisibles.

### ***Objects: what we use when we meet***

When people meet, they use objects as part of how they relate. Most of these objects are functionally invisible to those who use them. They include furniture, equipment, technologies, food, drink, and even paper and pens. These seemingly mundane things have become hotly contested in the social sciences (Engeström, 2005b; Law, 2005), particularly over the question of the *agency* of objects (Hornborg, 2017). This begins with the recognition that objects do not exist in isolation but are intrinsically caught up in a constellation of relationships (Van Oyen, 2015).

The conscious inclusion of an object into a relational constellation begins with making an object visible, which “involves separating the object from its background,

giving shape to and defining the object as an identifiable entity” (Engeström, 2005b, p. 318). This can be seen in the everyday use of the phrase, ‘I use this object for ...’ For example, ‘I use this pen for writing’. Yet there is much more to making objects visible, as we will see in the next section.

## Affordances and agency

*Affordances* have been defined as:

...the physical, [and social], properties of an object [that] make possible different functions for the person perceiving or using that object. In other words, the properties of objects determine the possibilities for action. (Dovey & Fisher, 2014, p. 44).

A pen’s shape and design create sensory-motor affordances (Engeström, 2005b, p. 308), constraining and enabling its physical use in certain ways. These however are not the only affordances of an object. Recognising the interconnectedness of the material with the social makes visible other affordances. The symbolic and ritual use of an object can show it to be an integral part of daily social processes. Thus, pen and paper become habitually *tacit* because of their *cultural normality* (p. 309), yet they can become more *salient* when signifying a highly symbolic collective activity, such as the signing of a treaty. Further,

objects are constructed by actors as they make sense, name, stabilize, represent and enact foci for their actions and activities ... At the same time it would also be a mistake to assume that objects are constructed arbitrarily on the spot; objects have histories and built-in affordances, they resist and ‘bite back’ (p. 310).

For example, a pen has physical sensory-motor affordances, as well as habitual, ritualistic, symbolic, relational, and cultural ones. An object can be conceived as invisible when any of its affordances are *unrecognised*. The important point for our immediate purpose is that a particular object may not look like an object because we “are not geared up to detect or know it” (Law, 2005, p. 334). Despite this, the invisible qualities of the object can still have an impact on a collective activity. Objects are part of the overall socio-material assemblage in a particular place and time (Fenwick et al., 2011). This leads into another crucial concept: *agency*.

At its most basic, *agency* refers to “the extent to which individuals have the capacity to choose the action that they take” (Wyatt, 2010, p. 2). Beyond this, however, is the contested ontological belief that objects themselves, in some way, have agency (Engeström, 2005b). For many, this is one of the strengths of a socio-material approach to research (Fenwick et al., 2011). Whilst acknowledging the complex arguments around the agency of objects presented by authors like Fenwick, et al. (pp. 171-174), I take a more critical realist position, where “non-living objects do not have agency, but they can impact on their surroundings (that is, have consequences for them)” (Hornborg, 2017, p. 98). This is in distinction with living organisms that have *purposive agency*. Even those attributing agency to inanimate, material objects tend to make distinctions, seeing “individual and collective human actors [as] disproportionately capable of *volitionally altering relationships to other actants within assemblages*” (Fenwick et al., 2011, p. 172).

This is the crux of my argument and a key finding from my research. To change socio-material assemblages for the purpose of reducing collisions of collective coherence requires one or more humans to *volitionally alter relationships* to support transcoherence.

In other words, a human is needed in order to rearrange the sociomaterial elements. This is what I do regularly as a facilitator and what is not usually understood by the managers of most venues. Yet once again, Sharlene from Dialogue intuitively grasped the importance of reassembling the material and social.

## **Reassembling the material and social**

Although Sharlene was unaware of the concepts in the discussion above, she instinctively sought to make visible the factors that support quality dialogue. This led to a concern for the ‘best use of equipment’, the second of her three elements for designing the venue, and an equivalent term for objects. Equipment here includes projectors, remotes, power cords, whiteboards, flipcharts, paper, pens, or any physical or technical thing that might be needed to support the dialogue.

Her first step was to recognise that good working equipment is usually camouflaged, part of the environment. It usually only becomes visible if it is separated from the

background, when ‘something goes wrong’. Therefore, she convinced the owners to change the relationships in the assemblage between customers, equipment, and the venue.

The first and most radical change was to ‘include everything that anyone could possibly need’ in the price for hiring the venue. In contrast, it is an almost universal custom to charge for each piece of equipment on top of room hire, and frequently the price is unknown until the invoice is received. This one change revolutionised the relationships between the venue, the organiser of the event, and the facilitator. Instead of the usual annoyances and subsequent hostility, we could just ask for anything as we needed it. This lowered the stress of preparation and during activities. It also allowed us to be more flexible and responsive to the needs of the group, changing what we used as needed.

Second, Sharlene developed the ‘Dialogue rescue pack’. This box contained the sorts of equipment usually required and often forgotten by those who organise and run events. These objects are forgotten because they are *taken for granted* or *not valued* until it is too late, and include things like cables, USB sticks, blue tack, sticky notes, whiteboard markers, sticky tape, and power cords. Finally, the rescue pack was not just handed over, but came with Sharlene or a coworker, as part of the service provided. This corresponds to the third heading in my model, Processes.

### ***Processes: organising space and time for action***

When people meet, they organise space and time to facilitate specific forms of actions (G. Jones, McLean, & Quattrone, 2004). I am calling this arrangement of what happens where and when, *processes*. Here, the focus is the processes in meetings, which include the arrangements, rules, and expected patterns of behaviour.

Of the many possible ways to organise meetings, only a few dominate in business and public service cultures. The legacy of business meetings comes from a long history, creating a repertoire of acceptable manners and ways of interacting (van Vree, 1999). This means that how meetings are conducted is *tacit*, done the same way they always have been. In fact, any ordering of space and time brings some actions to the fore and relegates others to the background, making some things



present and others absent (G. Jones et al., 2004, p. 725). This creates an invisible process which in turn results in an unquestionable approach to running any meeting. The key question here is: is the traditional arrangement of business meetings appropriate for the purpose of a collaborative meeting?

The simple answer in our project was ‘no’, traditional meeting structures did not fit the needs of collaborative work. So new forms of meetings needed to be designed. This required making process elements visible, such as clarifying what is necessary for authentic engagement (Neal, Neal, & Wold, 2011) and generative dialogue (Isaacs, 1999). Linked to this are the process changes that result from having a facilitator coordinate a meeting (Wardale, 2013). Since engagement is discussed in Chapters 3, 6 and 7, and both dialogue and facilitation are discussed in other interludes, only a few relevant comments need to be made here. We deliberately organised our meetings to begin with lunch, creating a strong invisible cultural container right from the start. The timing throughout was flexible, matched to what people were attempting to achieve at the time, not constrained by an agenda<sup>58</sup>. The use of a facilitator also rearranged the socio-material assemblage of the meetings.

In reference to my facilitation, there are two points to make here. First, during the activities, I try to make a lot of the facilitation as invisible as possible. I do this primarily through subtle body language such as eye contact, a raised eyebrow, head movement, and standing position. Verbal responses also come into play, but primarily I use the movement of my body through space and time. In researching the literature for this interlude I learned that this is considered an aspect of providing invisible support, that which is “both delivered less overtly and noticed less by recipients” (Howland, 2015, p. 149). I will address this further in the interlude on facilitation.

Second, a large, though invisible, part of facilitation is in designing the event. It isn’t necessary for participants to be aware of what the setting up requires. An equivalent image is of a chef keeping the cooking invisible to the diner, who only sees the final product. Venues should be aware of the requirements of a facilitator, but I usually find myself struggling with the venue to arrange things the way I need them. This

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<sup>58</sup> Chapter 4.2.2 describes collisions over different concepts of time during work meetings.

was why Sharlene and Dialogue were such a pleasant surprise. Instead of working alone, I had support and understanding of the importance of environmental factors and the role of objects. This leads us to a second dimension to making meeting processes appropriate, that of the service provided by the venue.

Returning to Sharlene, the policy at Dialogue was to “allocate a person as event coordinator” to work with the facilitator from the time they enter the venue until they leave. This arrangement streamlined setting up, as dealing with problems and questions became a part of the ongoing relationship. Once the meeting was underway, the Dialogue person was available at “any point during the day to provide whatever service is required”. To create this arrangement, Sharlene made visible the elements of processes that might need to change, through surveys, focus groups, chatting, and observation. New processes were then designed and checked with various stakeholders to assess their appropriateness.

### ***People and purpose: who is meeting, and why***

My final group of invisible things are the people who meet and the reasons they get together. These are addressed in detail in Chapters 3, 4, and 8, generally in reference to needing to deal with tacit understandings.

### ***Conclusion***

Collisions of collective coherence do not happen in isolation. Rather, our interactions occur in a specific time-space context/environment/field/container. Also, we are generally unaware of most of our surroundings, rendering them functionally invisible whilst still affecting us. By taking note of these invisibles we can redesign the contexts within which we have our interactions and thus change their impact on us.

## Chapter 7: Competing Fields

This seventh chapter revisits critical moments from other chapters, using a new lens on experiences described previously. Consequently, we will go straight to the weft, which will be relatively short. The new lens is focused not so much on who collided with whom, but on where the collision occurred, on whose *turf*. The warp in this chapter draws on the work of sociologist Pierre Bourdieu (1977, 1990), specifically his concept of social fields.

### ***7.1 The weft: on whose turf did we just collide?***

The weft in this chapter seeks to answer one question: ‘On whose turf did we just collide?’ The collisions listed below have been described in critical moments of earlier chapters. In most cases the physical and social location of the collision has been mentioned in passing but not brought front and centre for analysis. I reference where the full description of each moment can be found, but here I present only a brief summary to reorient the reader and highlight the social place in which the moment occurred.

**Chapter 1: Introduction** – Executive public servants criticising a draft design document for having colour and professional layout, colliding with my evaluation of an excellent product. Physically, this collision occurred in the offices of the design group Design Gov. However, almost all those in attendance were Secretaries or Deputy Secretaries of Australian Government departments. So the social space was created by Design Gov, but dominated by many of the most senior members of the federal public service.

**Chapter 3: Ideas** – The collision between the A2J2 project’s concept of access to justice and that of a new Attorney General. The project defined justice and access broadly, incorporating the interactions of citizens with many Government and private organisations. The Attorney General defined it as access to courts. There was no physical place for this collision but the turf could be seen as belonging to both. The public servants are the experts who provide apolitical advice to the government, while the Attorney General is the elected minister with political oversight of the issues under consideration.

**Chapter 4: Personality** – A collision over the facilitation of a meeting: conflict between the head of the project, her peers and her superior. The key phrase from the superior to the project head was, ‘If you want to have collaboration you need to listen and take note of what other people are saying’. Physically, this occurred in a meeting room in a Departmental building. But who owned the space? From a seniority point of view the Deputy Secretary had the most authority over the meeting. Yet the head of the project had authority over the project and was *running* the meeting. Finally, her peers were at the same level of seniority but were acknowledged as having more experience than she did.

**Chapter 5: Paradigms** – The collisions over *quality of research*, where attackers and victims each claimed to be using the scientific method. Physically, the conflicts occurred in departmental meeting rooms, yet each of the people involved viewed the space as belonging to their group.

Keeping all of these moments in mind, the next section introduces a theoretical framework based on Bourdieu’s work.

## ***7.2 The warp: Bourdieu’s field, habitus, and capital***

As stated in Chapter 1, the starting criterion for selecting a theoretical framework was that any theoretical lens **must offer both theoretical and practical value** to myself and the participants; that it will act as an **explanatory framework**, where each lens sheds light on the weft; that is, insights into why the critical moments occurred.

My choice of Bourdieu (1977, 1990) matches these requirements, but I did not employ Bourdieu’s concepts during my fieldwork in 2013 because I was unaware of his existence until late 2014. This is an example of the dynamic and emergent nature of my research methodology. My discovery of Bourdieu resulted from searching for authors who had developed concepts similar to my recently created concept of *collective coherence*. All the frameworks I have drawn on contain some elements I agree with and others that I find problematic. But I resonated deeply with Bourdieu and have found most of his ideas align with and fill out my own. For this warp, I will compare and synthesise Bourdieu’s thinking tools, *field*, *habitus*, and *capital*, with my elements of collective coherence. The resultant model will then be used in the weaving section.

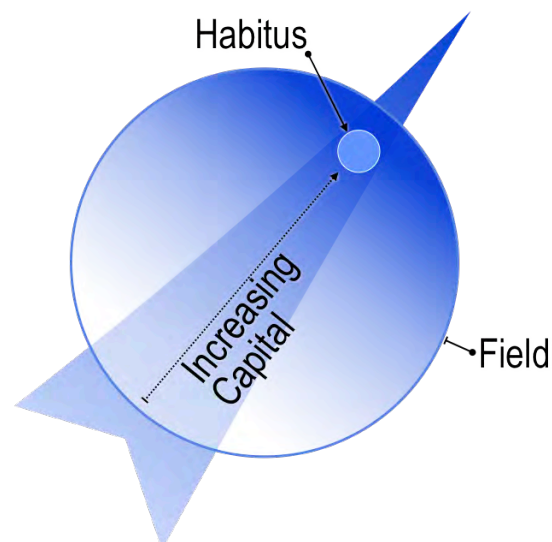
## 7.2.1 Bourdieu's theory of practice

Before reviewing the way in which Bourdieu uses field, habitus, and capital, I want to place them in context. These three concepts are interrelated, entwined, and dependent on each other, combining to form his overarching *theory of practice* (Bourdieu, 1977). This interlocking relationship was summarised by Bourdieu (1986c:101) using the following equation:

$$[(\text{habitus})(\text{capital})] + \text{field} = \text{practice}$$

Unpacking this equation, a person's *practice* is the result of the interaction between their personal dispositions (habitus) and their position (capital), in a particular social arena or space (field). So to adequately describe any one of these concepts requires a description of the others and the relationships between them. My abstract diagrams of collective coherence can be used here to illustrate. In Core Visual Heuristic A.9. the *field* is represented by the large pointed circle, a person's *habitus* by the small blue circle and their *capital* in that field by the position of the circle within the field. The rest of this section looks at each of these concepts in more detail.

### Core Visual Heuristic A.9. *Bourdieu's 3 thinking tools*



## 7.2.2 Field

For Bourdieu, to understand interactions between people requires an understanding of the *social arena or space* within which events occur: the *field*. It is here that

actors are situated in a place in social space, a distinct and distinctive place which can be characterized by the position it occupies relative to other places (Bourdieu, 2000/1997, p. 134).

Thus, there can be multiple fields, and these in turn may have subfields. Combined, all these fields are “historical constellations that arise, grow, change shape, and sometimes wane or perish, over time” (Wacquant, 2007, p. 268). Bourdieu’s idea of *field* is complex, using at least three<sup>59</sup> metaphoric forms (Thomson, 2012, pp. 65-72).

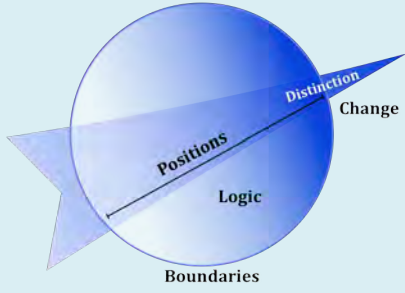
1. **Football field:** a topological space containing a bounded game with its own rules and logic. Players (agents) have different *positions* and compete for rewards (capital). However, these playing fields are not level but differentiated with an uneven distribution of privilege (Bathmaker, 2015, pp. 65-66). “Fields are shaped differently according to the game that is played on them. They have their own rules, histories, star players, legends and lore” (Thomson, 2012, p. 67).
2. **Field of relational forces:** such as a magnetic field where the space is differentiated by “hierarchized poles” (p. 69). In this metaphor the boundaries of the field are not clear and hard but instead there is “an ebbing away of the forces at the edges” (p. 70).
3. **Self-contained world within a force field:** drawing on science and science fiction, Bourdieu sometimes envisaged a field as a ‘cosmos’ and “a separate social universe having its own laws” (Bourdieu, 1993, p. 162).

While the different metaphors stress different aspects of a field, they all include some key characteristics. Many of those characteristics are more or less equivalent with those of collective coherence, and Table 17 provides a comparison between them. The first column offers a visual representation of the field characteristics, while the others compare individual terms.

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<sup>59</sup> S. Liu and Emirbayer (2016), for example, include battlefield as another metaphor.

**Table 17. Comparison of characteristics of fields and collective coherence**

Fields characteristics	Bourdieu's Field	Comparison	Collective Coherence
	Boundaries	Equals	Boundaries
	Change over time	Equals	Change over time
	Logic	Equivalent to	Coherence
	Distinction	Equivalent to	Purpose
	Competition between positions	Is a subset of	Processes
	Contestation	Is a subset of	Action

In these comparisons, two sets can be seen as directly equating to each other: the nature of boundaries and the temporal dynamic nature of change. Two others are broadly equivalent. I use *coherence* in the sense of logical patterns and so they are close in meaning, whereas my use of *purpose* is broad and not quite the same as Bourdieu's idea of *distinction*. He uses the latter to describe the person who knows the rules of the game in contrast to the 'vulgar' person who is disoriented and unsure in the field (Moore, 2012, p. 105). I consider the final two of Bourdieu's characteristics as subsets of mine. *Competition between positions* in a field is one type of *process* in a collective coherence. *Contestation* between fields is just one form of *action* that a collective coherence may take.

Having set out the field on which the *game is played*, it is now time to look more closely at the players on that field, which leads to the second of Bourdieu's thinking tools, *habitus*.

### 7.2.3 Habitus

Habitus is defined by Bourdieu (1977) as "*a way of being, a habitual state (especially of the body) and, in particular, a predisposition, tendency, propensity or inclination*" (p. 214). These *dispositions* are developed as a person "unconsciously adopts the social patterns and norms that surround them" (Beames & Telford, 2013, p. 80). Habitus, then, is mostly tacit. Maton (2012) offers a simplified description of Bourdieu's more technical language:

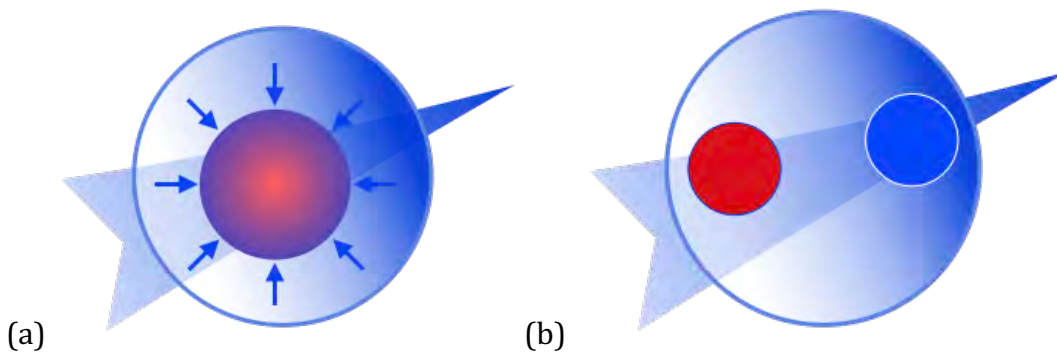
Habitus focuses on our ways of acting, feeling, thinking, and being. It captures how we carry within us our history, how we bring this history into our present circumstances, and how we then make choices to act in certain ways and not others (p. 51).

Further, habitus is formed in relation to a field. A child is influenced most by the formative experiences of early life, absorbing as natural the patterns of their family field (Sapiro, 2015, p. 488). Further still, a person's *origin habitus* comes from influences beyond the family.

It is very common for people to spend their childhood years in the same geographical location, same familial structure and same social surroundings<sup>60</sup>. Thus, when we are least aware of unconscious social influences and most exposed to a stable, relatively unchanging environment, we are most likely to develop the durable, instinctive dispositions that Bourdieu suggests form the habitus (Beames & Telford, 2013, p. 82).

Therefore, a person's habitus develops in a "field of origin" (Ingram & Abrahams, 2015, p. 140). Core Visual Heuristic A.10 illustrates (a) a habitus' absorption of the pattern of a field; and (b) two habitus, the blue one more closely aligning with the field, having absorbed more of the field's patterns and direction. This highlights that each individual's habitus is both unique and shares commonalities with others in their field.

**Core Visual Heuristic A.10. (a) Field influencing habitus, (b) Different habitus in same field**



The development of habitus may begin in the *field of origin*, but children grow up and are faced with new fields, different from what they have known. This relationship between habitus and a new field can be seen as "the meeting of two evolving logics or histories" (Bourdieu, 1993/1980, p. 46), where each helps to shape the other.

<sup>60</sup> It has recently been argued that this is no longer the case, particularly in Australia (Sheppard & Biddle, 2017).



An important characteristic of a person's habitus is *durability* (Beames & Telford, 2013, pp. 81-82). Whilst both habitus and field are in constant flux, there is a strong inertia, slowing change. Bourdieu describes how individuals and groups reflect this idea through the use of two important concepts, *doxa* and *hysteresis*.

#### 7.2.4 Doxa and hysteresis

Individuals and groups sharing a similar field over time will gradually develop a similar *group habitus* (Beames & Telford, 2013, p. 80). Yet these habitus are not exactly the same and do not reflect the field to the same degree. The habitus of some will be closely aligned with the field, shown previously in Core Visual Heuristic A.10(b) by the blue circle having a similar colour as the field. Groups with this close alignment have “shared but unquestioned opinions and perceptions” (Deer, 2012), that come to be seen as so *natural* that these *values* and *beliefs* come to be viewed as *common sense* (Beames & Telford, 2013, p. 81). This is what Bourdieu means by *doxa*.

Crucial to this idea of *doxa* is that what *makes sense* is only *common* to those deeply inculcated into that shared field. It is *tacit* and instinctive knowledge that can be “entirely *uncommon* in many other social contexts” (p. 81). In the language of collective coherence, *doxa* is closely related to *anchor points*. Both are an essential core and unconsciously unassailable. A consequence of this is that *common sense* cannot be questioned because no alternatives can be imagined. A person who is in *doxa in a field* has no reason to believe any other realities exist. They are a “fish in water” (Hardy, 2012, p. 127).

This is in sharp contrast to someone whose *habitus* is strongly mismatched with the *field* in which they are operating. Then they are a ‘fish out of water’ (Reay, Crozier, & Clayton, 2009, p. 1104). Bourdieu labelled this effect *hysteresis* (Hardy, 2012, p. 128). The hysteresis effect is the direct result of the durability of the habitus, which leads to expectations of how to act successfully and what should occur in a field. Yet when the field changes or a person enters a new field, their well-established disposition (habitus) is “ill-adjusted” to the environment they encounter (the new field), because it is “too different from the one to which they are objectively

adjusted” (p. 130). Put more simply, “they do not know how to behave ... and may feel that they are in the wrong place or that they are not able to function” (Sieweke, 2014, p. 32). This concept of Bourdieu’s fits comfortably with my model of dissonance<sup>61</sup> but he goes further by introducing the concept of *capital* into the mix.

### 7.2.5 Capital

The third of Bourdieu’s thinking tools is *capital*<sup>62</sup>, which can be understood as “anything that is designated as being of value within a given field” (Beames & Telford, 2013, p. 84). Bourdieu considers capital to have a number of types or ‘guises’ (Bourdieu, 1986, p. 243), including “economic capital (money, property), cultural capital (knowledge, skills, aesthetic preferences), social capital (informal interpersonal networks) and symbolic capital (prestige, recognition)” (Moore, 2012, p. 100). Bourdieu makes a distinction between economic and other guises of capital, asserting that the exchange of economic capital is direct and transparent, while the instrumentalism of other capital is suppressed and the exchange indirect (p. 100).

Other authors have added other guises of capital to the list, including (among others) scientific (Moore, 2012), literary (Bourdieu & Wacquant, 2013), intellectual (Bontis & Fitz-enz, 2002), collaborative (Engeström, 2005a) and organisational (Boardman, 2011). In each case,

in any given field the amount of power a person or group enjoys depends upon the capital they possess. In turn, the greater the amount of capital possessed, the more able a person or group is to influence what is considered to be of value (Beames & Telford, 2013, p. 84).

The types of capital take time to accumulate and are not evenly distributed throughout the field (Bourdieu, 1986, p. 241). Each type also exists in different forms (Bourdieu, 1986, p. 243). Capital may be *objectified*, where it is in a material form such as books, laboratories, and art. It may also be in the form of *habitus*, the dispositions and attitudes of individuals and groups. Finally, capital may be *embodied*, “incorporated within the corporality of the person as principles of

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<sup>61</sup> See Interlude: Listening to Dissonance

<sup>62</sup> Bourdieu has Marxist roots but contested and moved beyond Marx’s concepts (Bourdieu & Wacquant, 2013)

consciousness and in physical features such as body language, stances, intonation and lifestyle choices” (2012, p. 102). Table 18 slightly adapts Moore’s (2012) table, comparing these three different forms in two types of capital.

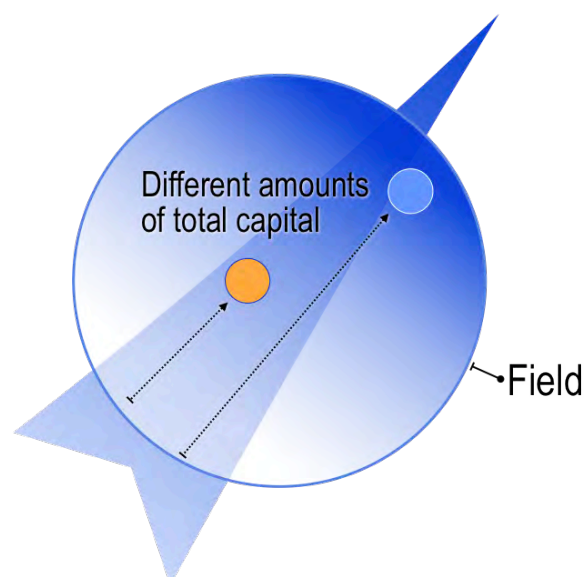
**Table 18. The forms of capital (adapted from Moore, 2012, p. 102)**

Forms of capital	Objectified (Things)	Habitus (Dispositions and attitudes)	Embodied (As part of the physical person)
<b>Cultural</b>	Galleries, museums, libraries, concerts, etc.	Knowledge of the canon, discrimination of genres and periods, the “rules of the game”	Cultivated gaze, poise, taste, desire for the recognition of distinction
<b>Scientific</b>	Laboratories, textbooks, instruments, “normal science”, etc.	Knowledge of the problem field, mastery of problem-solving techniques, “objectivity”	Ability to manipulate instruments and formulae, rationality, desire for peer recognition through innovation

Having described Bourdieu’s three thinking tools, field, habitus, and capital, Core Visual Heuristic A.11 brings them all together. Two agents, blue and orange, are shown in a blue field. The small circles represent habitus. Their position in the field indicates the amount of total capital they have in that field. The orange circle represents a habitus with capital from a different (orange) field, with consequent limited capital in the blue field.

With all the pieces in place, I can now move on to weave the warp and weft.

**Core Visual Heuristic A.11. Forms of capital and habitus in a field.**



### 7.3 Weaving the warp and weft: what might have been

This section is usually where I describe my use of the theoretical framework (warp) in the lives of the participants (weft). In this chapter I will use *field*, *habitus*, and *capital* to review the critical moments identified in the weft, to see how this different lens sheds new light on them; and then consider what I might have done differently in light of Bourdieu's concepts.

First, the physical space does not appear to be significant in any of the critical moments listed. I find this surprising given the importance of invisibilities identified in other parts of this thesis<sup>63</sup>. One reason for this may be that the large amounts of capital held by agents in these examples rendered the physical territory less relevant, and therefore invisible, unlike the social territory. With the social in mind, most of these critical moments can be usefully examined with Bourdieu's concepts. In some cases, *doxa* seems the most important factor, and in others, *hysteresis*. In the case of personality clashes, none of Bourdieu's ideas seem particularly relevant.

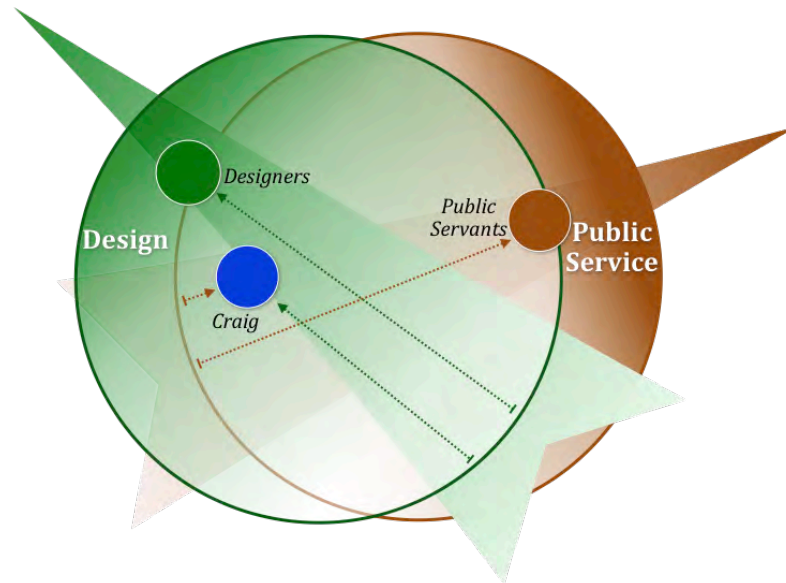
#### 7.3.1 The role of *doxa* in equal but competing fields

If *doxa* is where field-specific sets of belief and values come to be seen as so *natural* that they become *common sense*, then this helps to make sense of the actions of the main players in some of the collisions. Looking at the first two critical moments, each side in the conflict assumed they owned the territory. The protagonists were primarily working within the *doxa* of their own fields and oblivious that others in the conflict were standing equally confidently in their own, quite different, field. Core Visual Heuristic A.12 illustrates this using the conflict between Design Gov and executive-level public servants. The design and public service fields are very different, shown by the different colours and directions of their points. The fields are almost completely overlapping and are the same size, denoting their equivalence in terms of their perceived purview and power. With the fields in place we can now situate the agents.

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<sup>63</sup> See Interlude: Taking Note of Invisibilities, and Chapter 8: A Symphony of Worlds.

**Core Visual Heuristic A.12. Design / public service collision**



Both the designers and executives had high levels of capital in their own field but quite limited capital in the other, overlapping field. This is shown on the diagram by the highly saturated colour of the small circles and their placement near the pointed end of their own field. At the same time, this places them so low in the other field that they are straddling the boundary. So each perceive the other to be socially inferior.

This analysis is borne out by the data from interviews, discussions, and my observations. I was aware that the designers were not impressed by these senior public servants. In particular, they considered them ignorant, not overly intelligent, and unable to grasp the importance of design work. I have placed myself on the diagram in a position that shows my limited capital in either field, but I am closer to the designers than the public servants. In that critical moment I was also unconsciously residing in the *doxa* of the design field, evaluating actions and the document in question from a design collective coherence. From that perspective the derogatory comments from public servants were shocking and ludicrous.

Yet the comments that so shocked me make perfect sense if the speaker believes the operative field is the public service. As players with the most capital in that field they are immersed in the public service *doxa* and therefore assume the right to denigrate a document that does not conform to their expectations. Their putdown of the

designers also makes sense if the latter were perceived to have little capital and therefore did not have to be treated deferentially.

Both sides were relying on a tacit and unquestioned *common sense*, the *doxa* of their field. A similar analysis could be applied to other critical moments if space permitted. Instead, a more important question is, what I would do differently?

Given my new understanding of Bourdieu, and its impact on my concept of collective coherence, I would interact quite differently in a future, similar situation. First, I would spend more time in preparation. I would have clarified the fields in play, the pattern of the related habitus, and the level of capital of each agent. This would help to adjust my assumptions and make me sensitive to the possible conflicting *common senses* that might be operating. Second, during the meeting I would spend more time asking questions and trying to identify the different field logics of the various players. This may not be possible due to my own limited capital in both fields, which restricts what action I can take. Therefore, let me move onto the next example, where I did have some relevant capital and did take action.

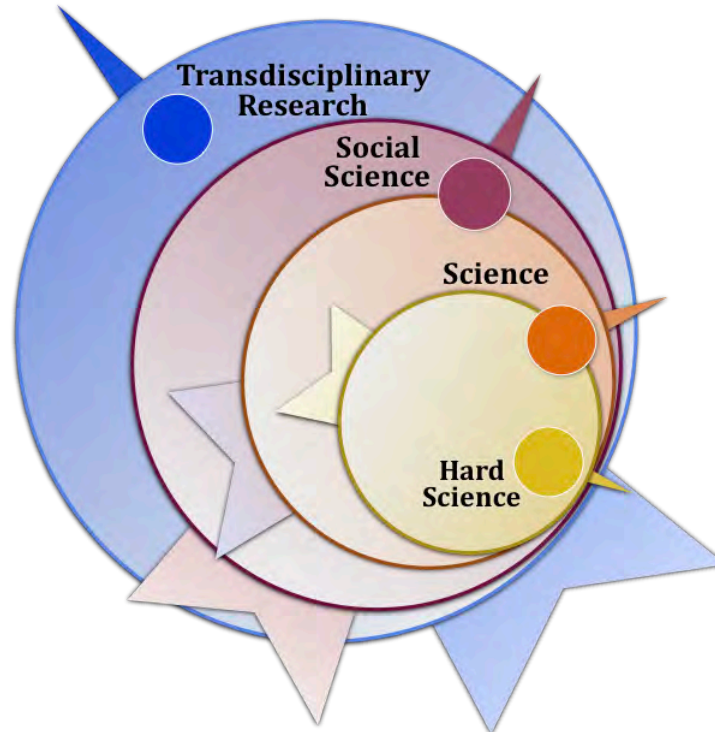
### 7.3.2 The role of *hysteresis* in hierarchically similar fields

The focus of Chapter 5: Opposing Paradigms was on collisions over the quality of research, while all parties claimed adherence to the same approach to research, the ‘scientific method’. So what extra understanding can be gleaned from these incidents by applying Bourdieu’s theory of practice? Again I use a diagram to illustrate, and refer the reader to the earlier chapter for the details of the collisions.

Core Visual Heuristic A.13 shows a series of nested fields of research, shifting in colour and direction from the smallest to the largest. Each field contains an individual researcher’s habitus (small circle), with significant capital in that field. This broadly reflects the high regard in which my participants were held by their peers. The differences in size show a Venn diagram-like relationship between the fields. They also reflect the participants’ view of research methodologies (from their comments). Rather than a collection of equal and separate approaches to research, some forms of research were able to encompass others. However, those positioned

in the smaller fields would find those on the larger fields outside the scope of their concept of research. So how does this diagram help my analysis?

**Core Visual Heuristic A.13. *Nested fields of research***



In Chapter 5 I noted the attacker-victim theme that emerged from the data, and the emotively charged reactions from those involved. Although Kuhn's ideas offer a good explanation for the conflict, I think Bourdieu provides something additional for understanding what happened and why. First, in looking at Core Visual Heuristic A.13, I have placed the attacker in each case in a smaller field in which their victims had either less or no capital. The terms used in the diagram reflect the general language and groupings of the participants, rather than any expert categorization of disciplines and their relationships. Second, among the participants there was a tacit recognition of a hierarchy of fields, with dominance increasing as the fields get smaller. For example, the social scientist's habitus has high capital in their own field but much less in the hard science field. If they evaluate hard science as more dominant, with higher status, they will attempt to justify their own research using the structures of the hard science field, assess their own successes by that field, and struggle to impress those in that field.

So why does this positioning create strong emotional responses? Part of the explanation may be found in the role of *hysteresis* that can produce a feeling of “being torn between two worlds” (Ingram & Abrahams, 2015, p. 140). This pain comes from trying to adjust one’s origin habitus to a new and contradictory field, a straddling of two worlds. There are a number of ways people can respond to this struggle.

Research by Ingram and Abrahams (2015) explores this phenomenon among working class students enrolled in ruling class universities, but it also fits this situation. The conflict arises because both worlds are valued by the ‘world straddler’, but one field is hegemonic. Their research utilises a *heuristic device*, a table with four main responses (see Table 19). In the context of their research the choices are between a person’s ‘*originary*’ field versus their *secondary field*. The options on the left result from a choice of only one of the worlds. Those on the right result from trying to choose both worlds.

**Table 19. Responses to a cleft habitus (adapted from Ingram & Abrahams, 2015, p. 148)**

Disjunctive: originary field OR secondary field	Conjunctive: originary field AND secondary field
Abandoned habitus – divided from originary field. A person renegotiates their habitus in response to the structuring forces of the new field.	Reconciled habitus – two fields are reconciled. A person can successfully navigate both fields. Can accommodate both structures despite opposition. Can induce a degree of reflexivity.
Re-confirmed habitus – divided from new field. The new field is rejected and so its structures are not internalised.	Destabilised habitus – person tries to incorporate the structuring forces of each field into their habitus but cannot achieve successful assimilation. Instead they oscillate between two dispositions and internalise conflict and division.

In applying this to the paradigm collisions from Chapter 5, and in light of Core Visual Heuristic A.13, those in the hard science field were operating in the *doxa* of the hegemonic field, and therefore their emotional responses were not due to *hysteresis*. They were merely puzzled as to why others were not calling out the poor quality research, and therefore their sense of dissonance manifested in confused outrage at the travesty of research being presented.

On the other hand, the reactions of the Core Team to being “asked to produce crap” *could be* a result of *hysteresis*. In the context of university learning, their *origin* academic fields had privileged hard science, especially ‘the scientific method’, giving



them a sense of the *right* sort of research. The project they were now in, a *secondary field*, was asking for a new approach to research that tacitly was requiring a change in their habitus. Rather than seeing this as an opportunity to expand their understanding, it created a sense of forced choice between the new and the old. Since the old was hegemonic, the new initially seemed to be 'crap'. Therefore, the initial response to the hysteresis was a *strongly re-confirmed habitus*. However, the consequence of this position would have been to leave the project, and therefore they had a motivation to not persist with this choice. The details in Chapter 5 show that the core members moved to a destabilised habitus, and eventually most finished in a new form of reconciled habitus. For some, this reconciliation was achieved by labeling the new field of research as *not real research*, which dissolved their dissonance by removing the legitimacy of one of the worlds.

To finish this example, I ask what might I do differently if faced with a similar set of opposing paradigms. Looking back on my weaving of warp and weft in Chapter 5, the general strategy of surfacing the tacit is in line with Bourdieu's emphasis on developing reflexivity. However, Bourdieu's concepts gives me a new and powerful language to both conceptualise the issues and help explain them to others. This would, I hope, enable me to better facilitate the development of transcoherence for those involved.

### 7.3.3 Personality – field-less collisions

Looking through my analysis of Chapter 4, there are clear collisions between groups that cohere around common elements, but, unlike the other collisions just reviewed, the collisions over personality do not have easily discernable combinations of habitus, field, and capital. This could be due to my lack of expertise in using Bourdieuan analysis, but I believe that the groupings of personality differences do not usually do battle on overlapping fields.

I do not mean that participants were somehow suddenly not operating on multiple fields. Rather, the fields of play were not directly connected to personality types in that situation. Indirectly, some personality types may be seen as having more capital in certain fields, but my data does not show this. At the same time, the psychological framework of personality type provides a substantive explanation for the collisions

in Chapter 4. This shows that different frameworks will be useful for explaining different types of collisions.

## 7.4 Conclusion

This brings the second movement to a close. Each chapter in this movement has explored an example of a particular type of collision of collective coherence. This final chapter has revisited a number of these examples and looked at the same critical moments through a different lens, that of Bourdieu's fields, habitus, and capital. This has demonstrated the advantage of using multiple lenses on the same data. The limitations of one lens are offset by another, and the synoptic overlay of them all creates a full and rich explanation of the events under study.

The ideas of Bourdieu have been ideal for exploring the question: "*On whose turf did we just collide?*" My concepts of collective coherence align well with his ideas. In a similar manner my concept of transcoherence can benefit from his various conceptualisations of agents encountering fields not their own. In particular, his concepts of *doxa* and *hysteresis* have been useful for understanding some of the specific collisions I encountered.

In responding to all the collisions mentioned in this movement, the research participants always had a *process facilitator* at hand. This was considered novel in the Department, and my style of facilitation was considered even more novel than what people had previously encountered. Therefore, it is time to explain more fully what I mean by catalytic facilitation.



## Interlude: Reflecting on Catalytic Facilitation

### *Introduction*

Facilitation was a central feature of both my research and the A2J2 project. In Chapter 2, I introduced the idea of catalytic facilitation of collaborative, action research as my research strategy. Catalytic facilitation is a unique element of my research, and in this interlude I will expand on my original definition, drawing on the literature and my own experience, and describe what it looked like in the project. Consequently, this interlude is longer than most. It will focus predominantly on the role of facilitation in with managing collisions of collective coherence. The placement of this interlude before Chapter 8: A Symphony of Worlds, allows me to provide important background information on what was the longest and most intense facilitation activity in the project.

This is also the most personal of the interludes. Facilitation is what I do and have done the whole of my adult working life. As I mentioned in another interlude, it is also something that I have never been trained in, most of my skills being intuitive or learnt through trial and error. Consequently, although the literature is helpful, I will be drawing on comments from the participants and my own reflections for much of the content in this interlude. First, though, what is facilitation?

### **Definitions of facilitation**

Facilitation has multiple valid and overlapping meanings, but there are some basic foundational elements common to all. The dictionary definition of ‘facilitate’ is “to make easier or less difficult” (Delbridge, 2005). Facilitators within organisations and projects are mostly concerned with making the ‘process’ easier, rather than ‘content’. Content is concerned with *what* is being discussed, whereas

process deals with how things are being discussed: the methods, procedures, format, and tools used. The process also includes the style of the interaction, the group dynamics, and the climate that's established (Bens, 2012, p. 9).

The focus of facilitation is often on small group training (Burrows, 1997), decision making (Kaner et al., 1996), and meetings (Wardale, 2013). It has also been considered a part of a manager's role (Weaver & Farrell, 1999), organisational change (Olson & Eoyang, 2001), collaborations (Chandler, 2017), and action research (Avgitidou, 2009).

The role of the facilitator can be traced back to the middle of the 20th century, as the development of a "leadership style that contributed structure to complex group interactions instead of direction and answers" (Bens, 2012, p. 7). From there it developed as a concept in the education and counseling literature and on to other specialities including organisational learning theory (Cranley, Cummings, Profetto-McGrath, Toth, & Estabrooks, 2017, p. 2). From my experience, and drawing on the literature, I offer a general definition of a facilitator:

A person who helps a group improve its processes, in a manner consistent with its core values, to reach a common goal. In particular, a facilitator makes a group's work easier by enabling their relational, cognitive and interactional processes, within a safe environment.

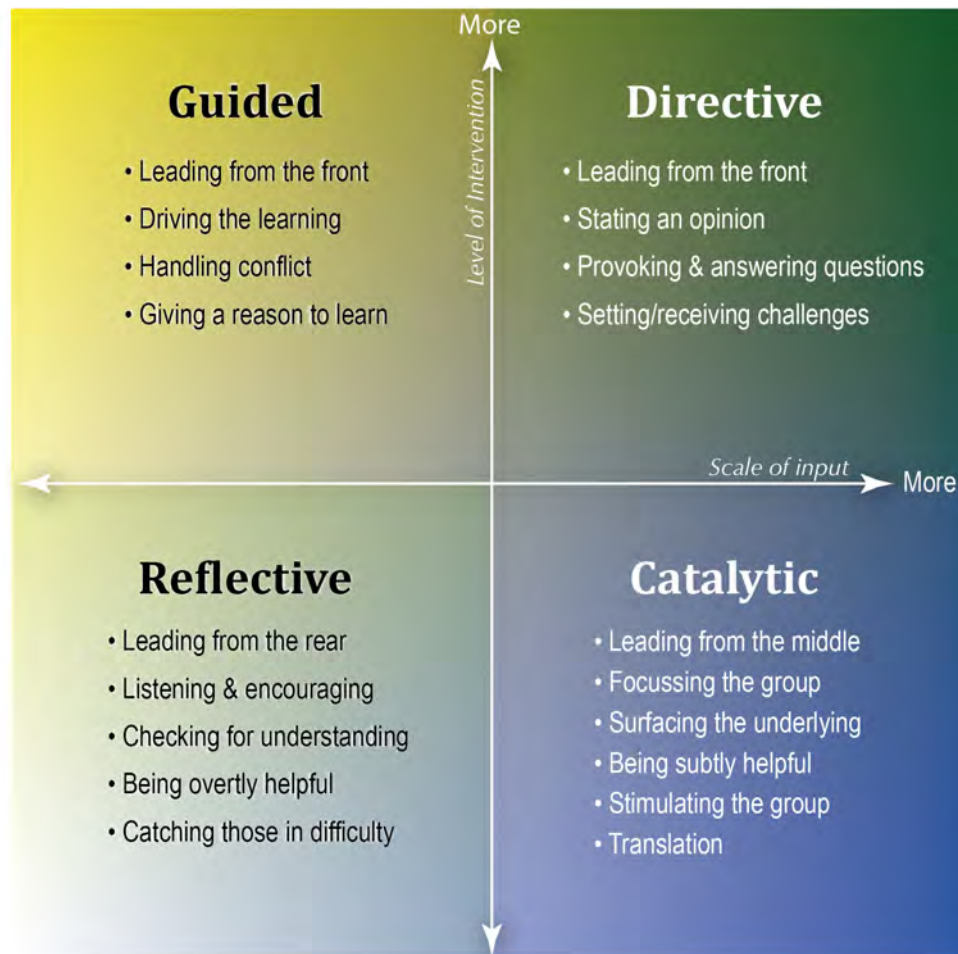
My role in the A2J2 project was to facilitate the process of collaboration, both for meetings and *in situ* with the individuals and teams as they worked. To achieve this I chose to function as what I call a catalytic facilitator.

## **Catalytic facilitation**

Distinguishing between types of facilitation is important because each type offers something different. Burrows (1997) suggests six dimensions, while Cranley et al. (2017) offer nine main roles. During the project I presented a simple model of facilitation, with axes along two dimensions, representing intervention and input. Intervention is the facilitator stepping in to change the process in progress, and input is the facilitator sharing something of themselves. Figure 37 adapts a diagram by van Maurik (1994, p. 32) showing these two dimensions. A skilled facilitator can move along each dimension depending on the group's needs. The movement from less to more along the axes conceptually generates four quadrants, each pertaining

to a different type of facilitation. The shading of colour across the divisions between quadrants illustrates the blurring of the boundaries between them.

**Figure 37. Two dimensions of facilitation (adapted from van Maurik, 1994)**



During the project I functioned primarily in the *catalytic quadrant* but utilised all four as required. The catalytic quadrant of facilitation has less intervention and more input from the facilitator.

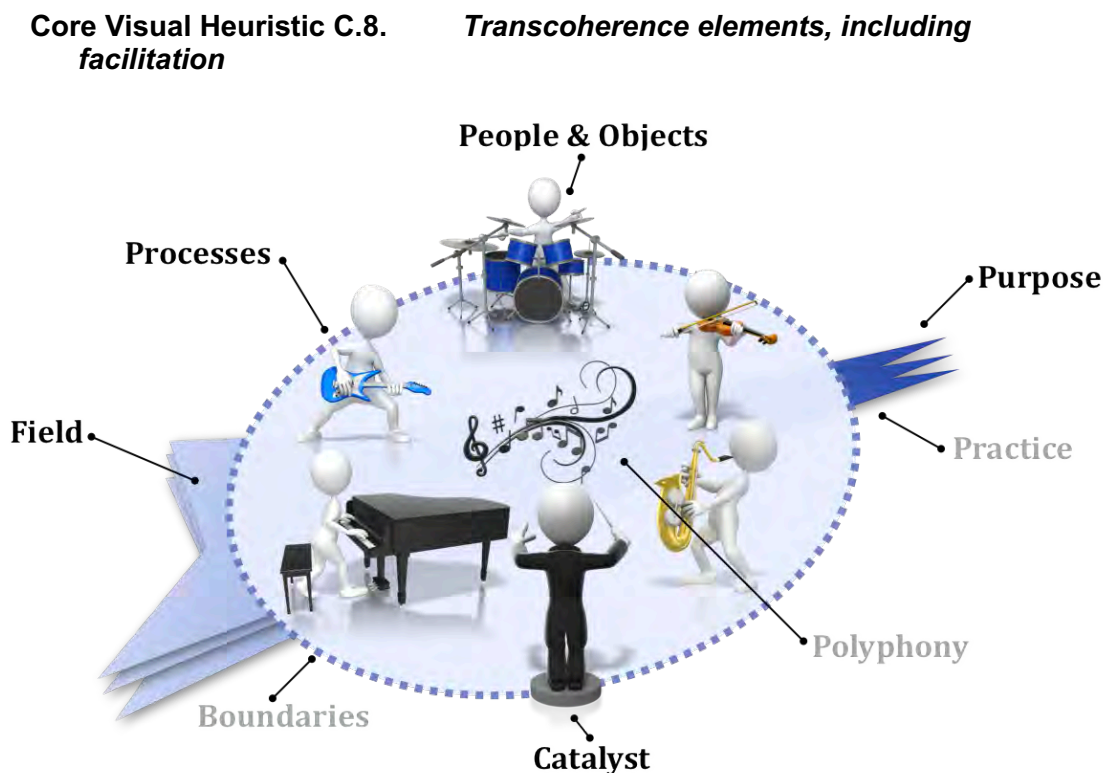
In practice this means that a catalytic facilitator holds the reins loosely on the group's interactions. This allows the group to meander and explore as it works through issues, cutting into the discussion to subtly nudge the group back in the general direction of its goals. At the same time, he offers input to stimulate the thinking of the group and to help surface underlying assumptions and emotions. Examples of my interventions and inputs are sprinkled through this thesis.

Even though participants were informed that I was using a catalytic approach, most just called it 'Craig's approach'. In either case, it was appreciated as being "a bit more

honest, it's less structured, less you know, considered and censored" (Kendra). What my approach meant in practice can be better understood by looking at specific facilitation roles.

### ***Specific facilitator roles***

The specific things that facilitators are expected to do have been described as their tasks, roles, or dimensions. Of these, I prefer the term 'role', where each role is a collection of "activities, actions, behaviors, interventions, or impact codes" (Lessard et al., 2016, p. 3). My choice of a catalytic facilitation approach entailed an enactment of multiple specific roles or sub-roles relating to specific activities. Multiple roles for facilitators also appear in the literature, with the exact number expanding over time, 51 for Dogherty, Harrison, Baker, and Graham (2012) and then more recently to 72 for Lessard et al. (2016). In an attempt to make this large collection of roles more manageable, Cranley et al. (2017) have grouped specific roles under nine headings. Not all of these roles are relevant to my thesis, but utilising a similar structure, Table 20 lists my own selection of headings and specific roles relevant to my research. The table is broken up into five groupings that correspond to five elements (of the total eight) in my transcoherence model (Core Visual Heuristic C.8) that have to do with the role of the facilitator.



**Table 20. Catalytic facilitation roles in the A2J2 project.**

Catalytic Facilitation Roles		2012	2016	2017	Group	In situ
<b>Purpose</b>						
1	Planning	X	X	X	X	XX
2	Focussing individuals and group				XX	X
3	Clarifying goals				XX	XXX
4	Developing covenantal thinking				XXX	XX
5	Promoting generative dialogue				XXX	X
6	Leading from the middle				XXX	XXX
7	Thinking ahead	X	X		XXX	XX
<b>Processes</b>						
8	Management of meetings, workshops and events	X	X	X	XXX	
9	Developing relevant meeting structures	X	X		X	XX
10	Supportive organising	X	X			XX
11	Individual and group support					XXX
12	Enabling Individual and group development				X	XXX
13	Adaptation and customisation	X	X	X	XXX	X
14	Story telling	X	X		XX	XX
15	Weaving members' ideas				XXX	X
16	Feedback	X	X	X	XX	XX
17	Keeping group aligned with goals	X			XXX	X
<b>Objects</b>						
18	Technology				XXX	
19	Resources	X	X	X	X	XX
20	Supporting objects				X	XX
21	Boundary objects				XX	X
22	Providing articles	X			X	X
23	Sharing ideas		X		XXX	X
<b>People</b>						
24	Freeing others from taking up a facilitating role				XXX	X
25	Active listening	X			XXX	XXX
26	Observing	X			X	XX
27	Supporting increased awareness	X	X		XX	XX
28	Stimulating critical inquiry	X			XX	X
29	Translation and interpretation	X			XXX	XXX
30	Supporting change and innovation				X	X
31	Managing collisions of collective coherences				XXX	XXX
32	Skills training	X		X	X	X
33	Ongoing personal support	X	X			XX
34	Informal influence			X		XX
<b>Field (Environment)</b>						
35	Noticing environmental invisibles				XX	X
36	Developing the architecture of the invisible				XX	X
37	Creating a safe relational space	X			XXX	XX
38	Creating an open, supportive, and trusting environment	X			XXX	XXX
39	Preparing venue				X	

The main body of the table lists the various specific roles under the five headings. To the immediate right of each, I have noted if it is mentioned by one or more of three key authors: Dogherty et al. (2012), Lessard et al. (2016), and Cranley et al. (2017). The final two columns identify (by the number of **X**'s) how important each role was for our group (G) meetings and/or my work with team members in situ (I).

Unsolicited comments were often made about my role as facilitator, and in the interviews I asked if people felt that a facilitator was needed in the project. Whilst these can't be interpreted as 'unbiased' views, the specific reasons given give some insight into people's perceptions. From this data I can state that there was universal agreement that an *independent external facilitator* was a requirement for the project. Reasons for this include appreciation of a number of the roles listed above. The most frequently mentioned was *24: Freeing others from taking up a facilitating role*. This was followed by *8: Management of meetings, workshops and events*, *2: Focussing individuals & group*, *15: Weaving members' ideas*, *37: Creating a safe relational space*, *38: Creating an open, supportive, and trusting environment*, *29: Translation and interpretation*, *33: Ongoing personal support*, and *34: Informal influence*.

Other advantages not listed above were also noted, such as having "external facilitation by someone outside the system, I think it's critical... I think you need external facilitation to think in a new way about things" (Elias), and "it is not essential but it's bloody useful because if you don't have it then you have to find mechanisms of neutralising the shaping, driving forces that are around the intent [...] of the meeting" (June).

A significant number of people had not experienced a facilitator in action before and appreciated what the role offered.

I think it's been very advantageous, because first of all it immediately eliminates any sense of the chair agency trying to beat everyone over the head into achieving a particular outcome. There were the obvious benefits of creating a positive atmosphere and bonding and having discussions in different compositions of groups of people so you can develop relationships, and you are not always sitting on a roundtable (Cindy)



Regarding the importance of being explicit on process, Cindy again:

It's been impossible to participate in A2J2 without being very conscious of how you are participating; because it's all on the table and it's very overt and so even when you are right in the thick of talking about something and its content focused, you are always aware of how you are interacting and whether it's creating a positive experience and contributing to the sort of values of the overall project.

Members of the Core Team noted the value of a “sounding board, but also as a kind of intermediary between myself and Catherine” (Hermione).

### ***Skills and attributes of a catalytic facilitator***

It is acknowledged in the literature that facilitators need certain skills and attributes to achieve the roles listed in Table 21 (Burrows, 1997; Cranley et al., 2017; McFadzean, 2002). There was also general agreement amongst participants that facilitation is “a skill set that lots of people don't have” (Amber). Linked to this was a recognition of the consequence of someone who was not skilled facilitating: “if one of us had tried to do that, there's probably going to be a train wreck” (Amber).

In general, it is important that a catalytic facilitator has the skills to develop participants' own thinking on process. This includes helping people to do what they are naturally good at by “actually taking you through a process and bringing expertise to how that would play out” (Jane); so that they know “that they're contributing, and that sense of contribution, that they're either bringing an idea or they're bringing an action or whatever” (Ethel).

There are multiple different lists of requisite skills in the literature, but Table 21 lists those most relevant to my concept of a catalytic facilitator. Once again, I have referenced key authors, Burrows (1997); McFadzean (2002); Hunter, Bailey, and Taylor (2007); and Cranley et al. (2017). The number of **X**'s in the final two columns again identify how important each role was for our group meetings and/or my work with team members insitu.

**Table 21. Facilitation Attributes and Skills.**

Facilitator attributes and skills		1997	2002	2007	2017	Group	In situ
<b>Intrapersonal</b>							
1	Self-aware	X		X		XX	XXX
2	Passionate				X	XX	XX
3	Self-reflective			X		XX	X
4	Genuine and authentic	X		X		XXX	XXX
5	Open	X				XX	XXX
6	Committed				X	XX	XX
7	Intuitive		X			XXX	XX
8	Sensitive		X			XX	XXX
<b>Interpersonal</b>							
9	Empathetic	X	X	X	X	XX	XXX
10	Agapé (Morris, 1981)					XXX	XXX
11	Emotionally aware		X			XX	XXX
12	Encouraging and empowering	X			X	XX	XX
13	Inspires trust		X	X	X	XXX	X
14	Respectful	X		X		XXX	XX
<b>Communication</b>							
15	Active Listening	X	X	X	X	XX	XX
16	Questioning	X	X	X	X	XXX	XX
17	Probing and challenging	X				XX	XX
18	Accurate empathising (Howland, 2015)					XXX	XX
19	Connecting and engaging		X			XXX	X
<b>Thinking &amp; Knowledge</b>							
20	Problem solving and critical thinking	X	X		X	XX	XX
21	Curiosity					XX	XXX
22	Mental agility		X			XXX	X
23	Keeping track of multiple thoughts					XXX	X
24	Creativity				X	XX	XX
25	Knowledgeable and credible				X	XX	XX
26	Translation				X	XXX	X
<b>Organisation</b>							
27	Aware of invisibles			X		XXX	X
28	Develops the architecture of the invisible		X		X	XX	
29	Flexible and fluid		X	X		XXX	X
30	Responsive		X			XX	X
<b>Space &amp; Time</b>							
31	Arrange space to support purpose	X	X	X		XXX	
32	Create a safe relational space			X		XXX	XXX
33	Comic timing					XXX	X

## ***An idiosyncratic facilitation style***

The previous sections identified the various *roles* and *skills* that were required for facilitating the A2J2 project. Although I was the facilitator, anyone able to fulfill those requirements could have done the same work, but they would have done it differently. Being authentic means that each facilitator develops a style that is unique to them, reflecting their personality, interests, and strengths. Thus, they select, prioritise, and employ the aforementioned roles and skills in varying fashions. So was my style of facilitation noted by others, and, if so, what were their reactions to it?

Almost all the participants commented on my particular style of facilitating, which initially was seen by Ethel as “a very strange way of chairing a meeting, a bit oddball,” and by Kendra as “idiosyncratic, fun, organic”. Ethel also picked up on “this notion that you can actually have fun in these processes”. So, although considered strange, most adapted to my approach, with Dolores saying, “I guess like everyone else I’ve simply adapted to the weirdness [laughs]”. The importance of informality and fun is discussed in Chapter 6, on organisational cultures. My usage reflects my personality and educational beliefs on the advantages of fun and humour for learning and thinking (Lujan & DiCarlo, 2016; Savage, Lujan, Thipparthi, & DiCarlo, 2017).

Related to this was the sense that meandering and play would be drawn back together. As Jane stated, “we could enjoy the freedom to have a play because you know it’s eventually going to end up somewhere”. My informal style was also seen as helping to “to set the scene and mood” (Kendra), creating a sense of equality between members of the group, so that with “having a bit of fun we start treating each other as humans rather than as positions” (Kendra).

Other reflections on my style included that I “pushed outside, to think outside the box, and that’s where you come from” (Dolores). Kendra noted that this took some people “outside their comfort zone, but that’s a good thing”. She went on to say that this meant that “You found what people’s raw reaction was to issues rather than the very [...] considered, well thought through, well briefed view that we normally prepare ourselves for and give in Estimates and those sorts of things”.

Some saw this promotion of innovative thinking and honesty, whilst being fun, as resulting in much needed 'energy', with Arthur commenting, "Wow, I haven't ever seen this much energy". Angelique also commented on energy, saying, "the energy around listening and really engaging and people putting their stuff in no matter where they are on any hierarchy comes from there being that sort of some common agreement about what we're collaborating on".

## Self-reflection on my facilitation style

What others notice about my facilitation style overlaps with my own thoughts, but with some crucial differences. To begin with, I agree with Stewart (2006), that "in practice, experienced facilitators do not focus on techniques, roles or skills but are able to do it all at once" (p. 431). All of the elements listed in both Tables 21 and 22 are important, and I find the multiplicity is like having my own orchestra, where I can utilise any or all as needed.

Yet within that multiplicity, I find it *comes down to heart*. If I am seeking the best for the individuals and the group, the rest flows and falls into place. I get 'in the zone'. This idea of flow is described by Csikszentmihalyi (2014) as:

the holistic sensation present when we act with total involvement ... It is the state in which action follows upon action according to an internal logic which seems to need no conscious intervention on our part ... We experience it as a unified flowing from one moment to the next, in which we feel in control of our actions, and in which there is little distinction between self and environment (p. 136).

When it all comes together others notice it as well. Even Dolores, with her concerns about me and my role, gave a positive summary of my facilitation style.

You never ever strike a wrong note, your sheer stamina and the fact that you managed to keep the focus was amazing. And even though you say you have no expertise, you summarised all the important things all the time.

The sense of flow also helps me to include humour appropriately, generating more fun and energy. Sharlene (the venue manager) commented after one session that she "had never heard so much laughter coming from a meeting of public servants".

Another of my idiosyncratic attributes is that I enjoy living in and learning about the multiple worlds of individuals in a group. I am fascinated with how different people make sense of issues in such diverse ways, and therefore it is natural for me to explore and surface the different internal logics operating below the surface.

Surfacing the different coherent forms of thought could lead to chaos, but I make a deliberate effort to *keep track of multiple threads* of conversation, thought, and feeling. This enables me to let the group chase down divergent ideas as far as they need. Then, I can tie them all back together so we can all see what we have created. This is part of what I mean by a catalyst. These threads are not mine but belong to each person who contributes. I am weaving together their thoughts, ideas, and insights.

Linked closely to following the complexity of thinking is the crucial skill of always being *alive to the hidden activity in the room*. This requires following different types of threads, the emotional and relational undertones, or individual concerns. Doing this is also harder and more likely to fail, but if I can correctly 'read the room' the group is more able to confront deep and challenging issues.

My final idiosyncratic facilitation skill supports the weaving of the emotional and relational threads. When in the flow, it can seem like I almost read people's minds. Howland (2015) calls this 'empathic accuracy', defined as "the degree to which one individual accurately infers a target person's thoughts or feelings" (p. 149). This skill allows me to make subtle interventions and to assure individuals that I understand them even when challenging their thinking. This was noted by some participants, as typified by this comment from Dolores: "I don't think anyone in the room ever felt 'No, that's not what I said', ever".

## ***Conclusion***

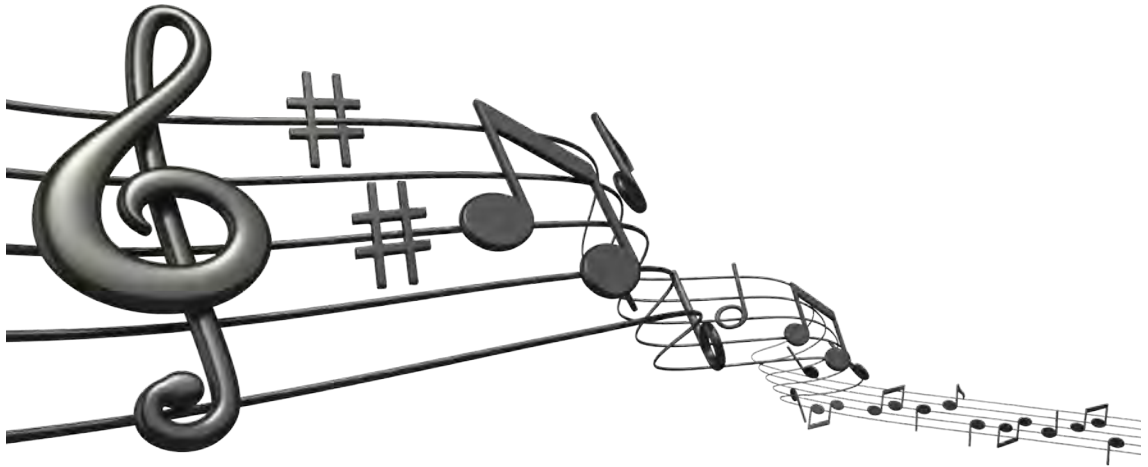
Catalytic facilitation is a unique aspect of my research, and each section of this thesis highlights something of its impact on my research participants. Like a conductor in an orchestra, this form of facilitator helps to develop transcoherence by bringing the expertise of a team into a harmonious whole.

The tables (21 and 22) in this interlude identify the roles, skills and characteristics required of someone who seeks to conduct facilitation in this way. Yet even with all these factors in place, each facilitator is idiosyncratic, bringing their own personality, history, and values to bear on their work. Likewise, each heterogeneous team is made up of a unique mix of expertise and collective coherences.

Therefore, as with the rest of this thesis, the theory of facilitation is kept grounded in the specific lived experiences of the A2J2 team during 2013. The best example of transcoherence reducing collisions between collections of collective coherence was at the Roundtable in the later part of the year, and this is the focus of the next chapter.

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## Movement 3: Bringing It All Together



**Bringing it all together:** The remaining two chapters and associated interlude and coda provide the finale to the work. The first movement set the scene and introduced the themes, ideas, and focus of my research. The second movement analysed five specific types of collision of collective coherence. The final movement is where all the ideas and themes are brought together. Each of these final chapters deals with *multiples*, the dominant theme first introduced in the prelude.

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## Chapter 8: A Symphony of Worlds

In the whole thesis this chapter is the only one with a positive heading. Apart from the neutral introductory chapters, all the others are named after some aspect of collision between different worlds. The interludes, however, have offered uplifting insights into how diverse groups can develop their own transcoherence and learn to collaborate synergistically. Extending the musical metaphor, this difference can be seen as a contrast of *minor key* chapters and *major key* interludes. The tension between chapters and interludes is resolved here in the final movement just as in a symphony.

Expanding on the metaphor, a symphony usually requires an orchestra, which is a combination of very different musical worlds. Each instrument has its own sound, history, rules for playing, and knowledge. A symphony requires these many different worlds to work together to form something greater than just the addition of its parts. The beauty of musical complexity is not achieved through consensus, with everybody playing the same notes, but through an intricate interweaving of melodies as each instrument does what it does best. For me, the quintessential example of this is the final movement of Beethoven's Ninth symphony<sup>64</sup>.

As a reader who has worked through my thesis to this point, I suggest that before you read further, you click on the link in the footnote and watch an orchestra in action. Apart from the inherent value of hearing and watching this wonderful piece of music, I will be drawing on the metaphoric similarities as part of my analysis in this chapter.

As usual, I introduce the main themes of the chapter through a critical moment. In this case it is not an example of a collision but of confusion that there wasn't one.

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<sup>64</sup> A video of the final movement of Beethoven's ninth symphony can be viewed online here <https://www.youtube.com/watch?v=QDViACDYxnQ>

## ***8.1 A critical moment of no collisions***

From the 25<sup>th</sup> to the 27<sup>th</sup> of August 2013, the A2J2 team hosted a roundtable of approximately twenty-five people with very diverse backgrounds, interests, and areas of expertise. This particular critical moment occurred in the evening of the last day, after we had officially closed the event.

I am exhausted but elated. The Roundtable has finished and as far as I can tell it has gone well. As I finish packing up, Penfold enters the room and says that some of the participants would like to talk with me. Paranoia hits and I wonder what's gone wrong. He calms me down and explains that they want to talk about why the Roundtable was such a success. "Well that's new," I say, and we head up to the bar to chat with them.

I join a group of five or six Roundtable members, as well as Molly, Abbey, and Penfold from the A2J2 team. The Roundtable members begin by stating that they are all very experienced with the sort of event that had just finished. Consequently, they were puzzled, because normally all sorts of conflicts and problems arise during this sort of activity. They want to talk with us to find out if it was just a fluke or had we actually organised the event to work so well.

Over the next hour or two we were peppered with questions, interspersed with stories of what usually happens. Their range of questions and comments highlighted for me their experience. But what surprised me was that we had considered every single question they posed.

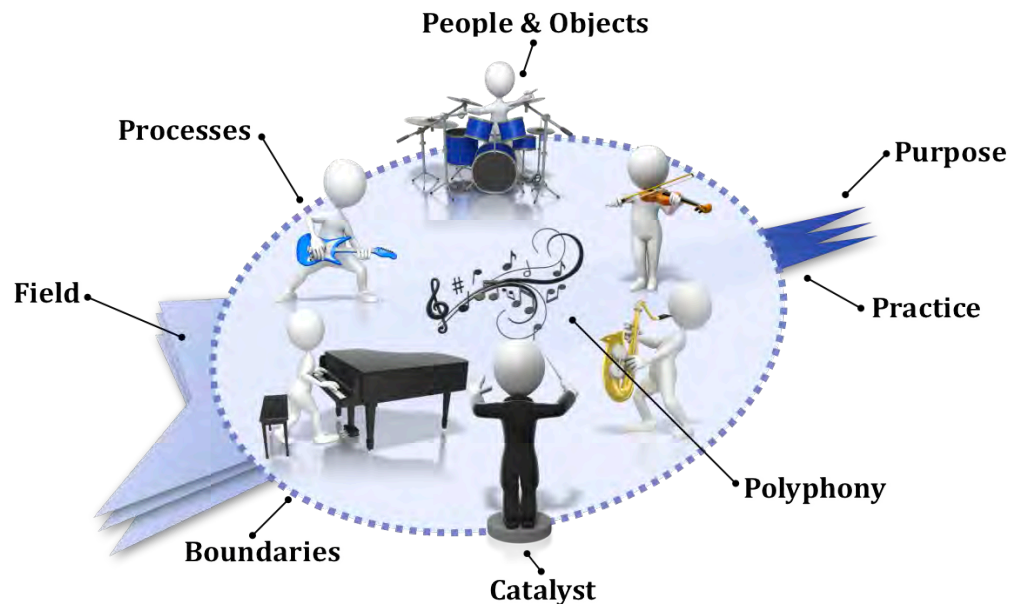
In my decades of facilitating I have rarely had a response like the one described above, especially with such a diverse group of senior, strong willed, and opinionated people. There were so many potential collisions of collective coherence, and yet, with one small exception, the Roundtable generated synergies and harmony rather than conflict and discordance. This was unusual in the A2J2 project, and unpacking what made this event different is the focus of this chapter.

## 8.2 The weft – planning for synergy, adapting to change

The data for this weft primarily comes from two lengthy debriefs held by the Core Team in the week following the Roundtable and the reflections described above. In addition, I draw from the many emails relating to the event and the mass of information connected to its design and implementation. Together this data helps to explain how we managed to have a symphony rather than a cacophony. To organise this wealth of information, I again utilise my model of elements of transcoherence, all of which played a part in the event. The first stage was our planning for diversity.

### Core Visual Heuristic C.9.

### Elements supporting the development of transcoherence



### 8.2.1 Planning a ‘Youth in Transition’ roundtable

The Roundtable was similar to many events, but one point of difference was in our planning for multiple invisibilities<sup>65</sup>. Planning began months before the event, as part of the work of the IDCG, with members agreeing that a wicked problem would require a diverse collection of expertise and perspectives. We designed it using every element shown in Core Visual Heuristic C.9, beginning with the reason for having the Roundtable: its *focus* and *purpose*.

<sup>65</sup> See Interlude: Taking Note of Invisibilities

The Roundtable was held in the latter part of the project. Its focus, *Youth in Transition*, was a subset of the project focus, *Reconceptualising Access to Justice for all Australians*. Three types of youth were identified: indigenous, refugee, and those in custody. When they turn 18, individuals in these groups are often suddenly ejected from the system, and all supports removed, leaving some literally on the street. Thus, our singular focus had multiple aspects.

The stated purpose was strategically ambiguous so as to “promote unified diversity” (Jarzabkowski, Sillince, & Shaw, 2010, p. 130) within which multiple individual purposes could be expressed. In line with this, the invitation sent to participants explained that our hope was:

that we can reconceptualise and reshape service provision to take a consumer-centric approach that addresses the whole-of-life needs of the most disadvantaged [...] With a couple of days of free thinking time in the proximity of others from different areas of expertise, we may be able to generate some new approaches to the issue of the lives of most of the youth exiting care. (Roundtable invitation).

With our purpose in place, we shifted our planning to who might be invited, and what we would need to encourage synergy.

## **People**

In response to the question, ‘Who should attend?’, the IDCG’s contribution was crucial, recommending those whom they considered would add the most value to the event. Each person was evaluated for their potential in multiple areas. Some were standard, such as content or process expertise and being respected in their professional community. Others were a bit harder to know and so we relied on our networks to find out if they had an ability to ‘play nicely with others’, engage in creative thinking, represent one or more dimensions of the issue, and have a reputation of putting people first. In other words, we were looking for ‘T’ shaped experts.

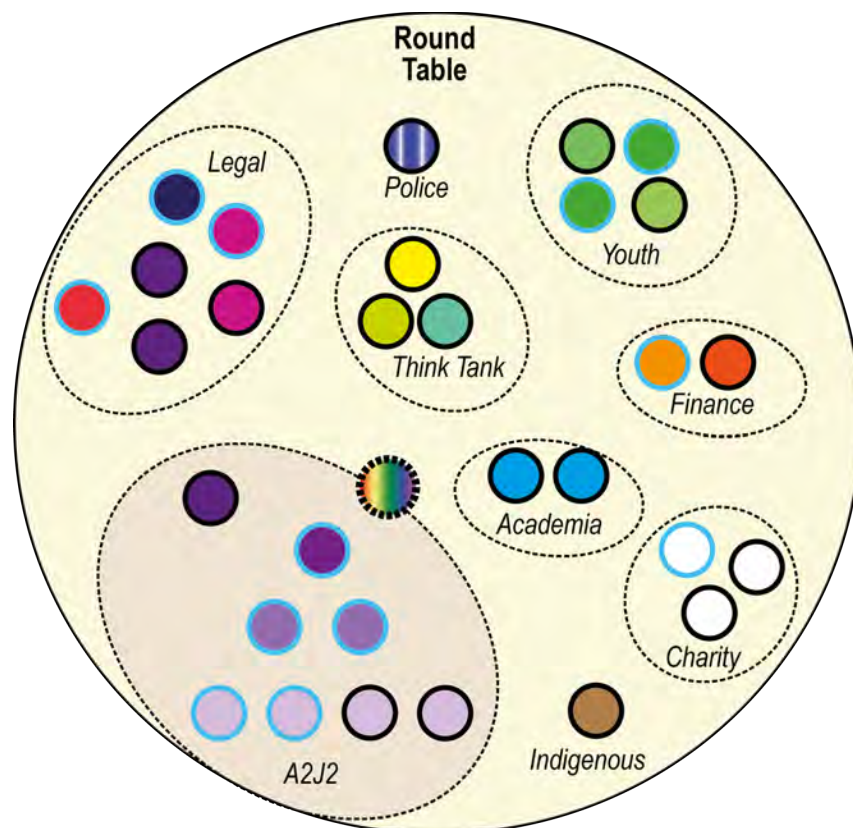
Penfold then took responsibility for contacting each possible attendee, chatting with them about what the Roundtable would be like and sending explanatory material.

His genuine and personal approach was noted as a significant success factor both by participants and in our team debrief.

The proposed list of participants that emerged for the Roundtable created a potential for multiple collisions and conflicts. Core Visual Heuristic A.14 illustrates the groupings and diversity of those attending. The dotted circles represent the various paradigms represented. The largest group was the A2J2 team. It was also the only one whose members came from the same organisation. Other groups had representation from legal and community legal; think tanks (both left and right); youth, multicultural youth and indigenous youth; finance, including economists; charities, including religious charities; academics; and police.

The colours of the dots represent the individual organisations each person belonged to. Each person's gender is represented by the line around the dots (a blue line for women and a black line for men). Seniority is shown through the shading of the colours, lighter shading representing a lower level in the organisation.

**Core Visual Heuristic A.14. *The groups of attendees at the A2J2 Roundtable***



Paradigms were just one possible grouping along which faultlines might emerge, with the following list identifying others:

- **Sociological:** Gender: 11 women, 14 men; ethnicity: one indigenous Australian, one New Zealander, the majority anglo-celtic.
- **Age:** Most in their 40s and 50s, with a minority in their 20s and 30s.
- **Seniority:** Most were high up in their organisations, including CEOs, directors, a federal minister, and executive managers. A minority of people came from lower organisational levels including administrative levels 4 and 5, frontline staff, and a police officer.
- **Public versus private:** The majority worked in the private sector, but a significant minority worked for government at both the federal and state levels.
- **Practice to theoretical:** Individuals ranged from direct frontline experience, through more indirect policy development and academia, with a few having not direct experience of the topic but expertise in areas such as systems thinking.
- **Personality:** We did not formally identify personality types, but most were familiar with MBTI and so some differences were commented on. Most identified as extroverts, with only a few introverts.

Given these different groupings and potential conflicts, we then asked ourselves what would be required to encourage a synergistic collaboration, reduce potential collisions and, if possible, develop transcoherence in the whole team. This drew us into the next stage of planning: the structure of the activities and the things we would need in place to support them.

### **Boundaries, processes, objects, and environment**

This section includes some of the most unusual elements in our planning. The interlude, *Taking Note of Invisibilities*, presents a rationale for prioritising the invisible things when designing a meeting of diverse experts. Therefore, this section relies on the theory and ideas from that interlude to briefly describe what we did in this particular example.

Participants expected an unspoken defense of a group's boundaries, with a number describing the jockeying for position and rivalries that usually occur at the beginning of this kind of event. Our approach was to start by acknowledging the

many groups and their boundaries at the start and whenever they became obvious or relevant. We wanted our differences to be clear, relevant, and diffused of any power to create conflict. We achieved this through the structure of the activities and the style of facilitation.

Structurally, each phase of the Roundtable included vignettes from two of the participants. These were short, five-minute monologues on whatever they wanted to say. We loosely placed who spoke when, and Penfold provided everyone with a general outline of what we hoped for from these moments. These vignettes were seen as another key success point by those involved. The freedom for everyone to say whatever they wanted helped to lower barriers and create a sense of sharing in each other's worlds. The loosely organised nature resulted in unexpected synergies in the topics and issues presented, as well as often setting the tone for that phase.

In the introduction to the event I made clear that my facilitation would take note of conflicts and boundaries, raising them for open discussion. This approach was agreed to and later appreciated as both different and helpful for generating harmony and diffusing potential problems. Initially, a few people tested this, making strident comments or claims. In each case we openly discussed their concerns, which led to deeper dialogue. Supporting this were the activities, each designed to promote dialogue and a sharing of insights.

We did not design processes only for formal activities, but also for the whole temporal dimension. All travel and accommodation was arranged for the participants, including lifts (by Core Team members) to and from airports. We did this to create a specific experience, one where they could relax and feel cared for without having to worry about anything other than participating. This was noted in the discussion on the Tuesday evening, with one person stating that they had never 'felt so free to get on with the interesting stuff'.

Designing the totality of the temporal experience did not mean that the agenda was tight and rigid. Since we wanted all the interactions to support relationship building and emergence of thinking, we made each segment of the event elastic, changeable, and with padding at the end. The format included informal times of meals and some free time to unwind.

The more formal time was divided into phases, the first being a clarification of the purpose for that segment. This was followed by the vignettes mentioned previously. Following the vignettes, each phase contained activities designed to promote dialogue and sharing of information and insights. Again, in line with the earlier interlude on invisibilities, we designed a socio-material assemblage. This included general rules for the process of the interaction, objects to support it, and a facilitator on each table to enable and encourage the process.

Photo 4 shows a table near the end of the event with many of the objects we used, all of which were placed in the centre of the table before we began. Each person received an A2J2 branded compendium containing all the notes and information. Using ring binders allowed us to add more pages as the Roundtable progressed. Sticky butcher's paper was provided for the various summing up activities. Post-it notes, with special pens, enabled us to have visual discussions and gave everyone a voice (see Photo 5).

**Photo 4.** *Supporting and enabling dialogic boundary objects*



Good tea and coffee were always available, and following Catherine's suggestion we placed pipe cleaners and squishy balls on the table for the kinesthetic learners.



**Photo 5. Objects as visual outputs from discussions.**



Having taken note of invisibilities relating to boundaries, processes, and objects, we began to search for a venue that could provide a suitable environment. Dialogue, our preferred venue, was deemed unsuitable because they had no on-site accommodation. We felt it was essential that everyone live in the same location for the length of the event to promote relationship building and maximize informal interactions. We were unable to find a venue in Canberra that met our criteria, and therefore compromised, settling for the next best option, the Hyatt Hotel.

The Hyatt had the advantage of containing a bar, restaurant, lounge, and breakfast café all in the one sprawling building. It was also located near the lake and walking tracks. These features enabled us to plan our use of space at a scale that would have been impossible with Dialogue. On the downside, all the rooms were dark and uninviting, and everything we requested cost extra and perplexed the management, leading to lengthy negotiations.

Members of the team did the general organisation, and I only came in at the end to clarify with the hotel exactly how we wanted the room set up. In the end we were able to create a dialogic container close to what we desired. The front of the room had a lectern, projector and screen. Photo 6<sup>66</sup> shows these elements as well as the layout of the tables, whiteboards, and the rather dim aesthetic. We had to negotiate to expose a window and let in some light.

<sup>66</sup> I have blurred all the faces except for mine in all the photos. It makes them look a little odd but retains the anonymity of the research participants.

**Photo 6. Facing the front of the event room, with me facilitating.**



On the wall at the back of the room we set up a second projector, and the remaining wall space was used for *graffiti* sheets (where participants could add relevant comments at any time) and other paper products from the activities. Photo 7 shows sheets at the side, and six sheets in the centre to create an impromptu screen. At the start of each day and in each break, we ran slideshows with music. Each slideshow contained images from earlier in the workshop or from the participants' workplaces. This was designed to allow time for, and encourage people to add comments to the graffiti sheets, and seemed to work well.

**Photo 7. The back wall of the room, with impromptu screen and graffiti sheets.**



### 8.2.2 Adapting to change: when the plan meets reality

Our design of the Roundtable included planning for change. In my experience, very tightly designed events can become disasters soon after the first activity begins. There is no room in tight structures to change the pace or direction of conversations in line with the emergent interests of the group. To counter this potential problem, we again enlisted the multiple elements of my transcoherence model (Core Visual Heuristic C.9). In particular, we did not want the pressure to change the structure of the event to become a problem. Rather, responsive change was part of our desired outcome.

The purpose of exploring the multiple perspectives of our problem required an elastic structure, with built-in padding. This allowed us to adapt to the needs and mood of the group in both content and time. As facilitator, I would regularly check with the group about what they wanted to discuss and for how long. In some cases, this meant that a whole activity was dropped or curtailed, while others were extended or created from scratch. To achieve this flexibility and responsiveness, as facilitator, I needed time to reflect on what was happening and discuss ideas with the other team members. The design of the activities provided the necessary opportunities.

Each activity was dialogic and based on table sizes of five or six participants. The dialogue was supported by the objects previously described, and facilitated by a team member. This structure allowed me to move around the room, observe, interact, and sometimes chat with a table's facilitator. I would use the information I thus gathered to plan changes to the agenda, by changing the content and order of the slides that provided the outline for the structure. This created an impression of seamless movement that was commented on by some as almost being 'spooky' in how it anticipated the interests of the group.

We also adapted by responding to the specific information that emerged in the table discussions. By using the whiteboards and Post-its as boundary objects, each table was able to see ideas emerge and develop. Since each table had its own unique mix of people and facilitator, the outputs all differed in style and content. The freedom to use all the available objects in whichever way the group chose also contributed to

this diversity. Photos 8 and 9 illustrate this point by showing the different uses of pens and Post-its.

Photo 8. Whiteboard output from one of the activities

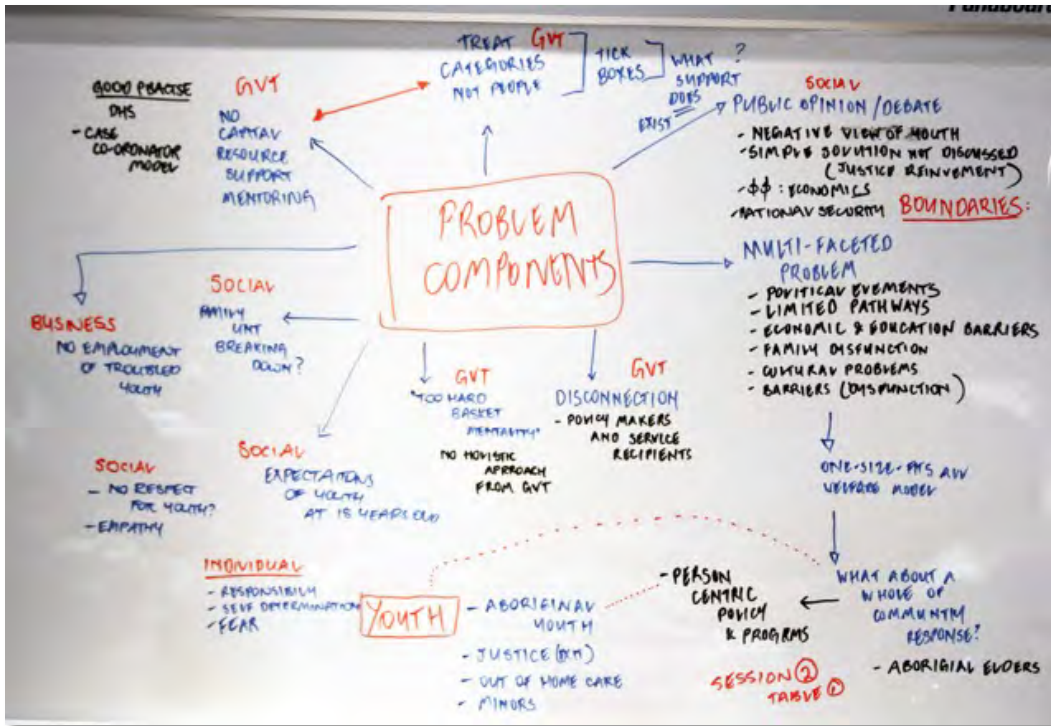
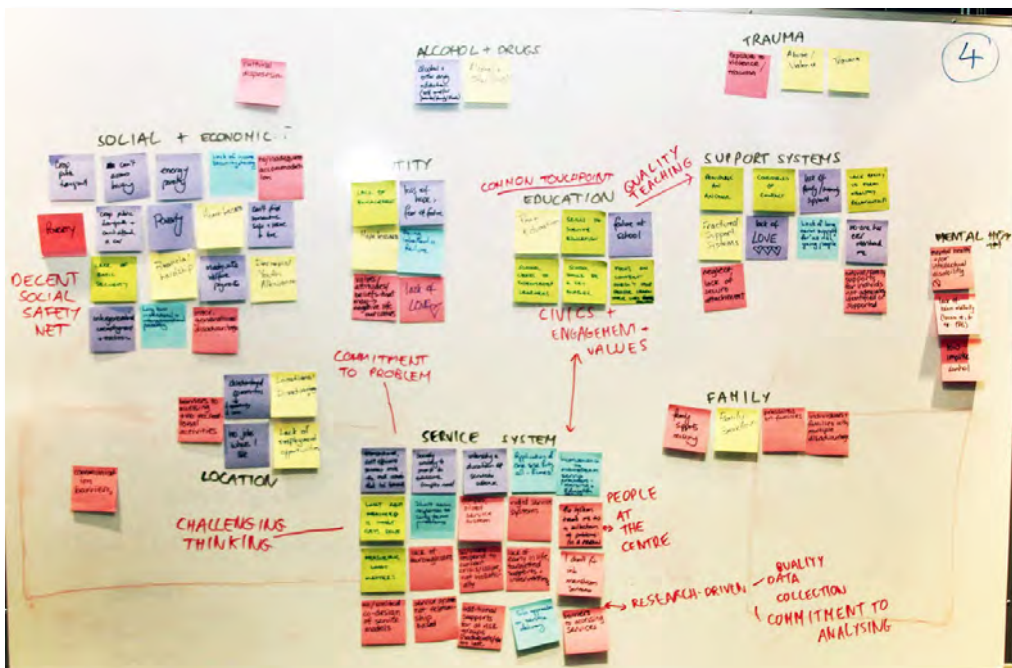


Photo 9. Post-it note output on one of the whiteboards.



The content output from one activity would become a foundation for the next. In this way, we incorporated the thinking of the group into an ever-growing body of knowledge throughout the event. Even ideas from the vignettes were drawn into the discussion and added to the whiteboards.

This weft has shown that taking into account various transcoherence elements in the design of the Roundtable led to synergistic success from the point of view of the participants. The participants, including our team, offered these foundational reasons for this success:

1. planning that takes into account the complex multiplicities of working with diverse experts, and
2. a willingness to adapt during the event itself.

The next question is: What theoretical frameworks provide a conceptual basis for why our focus on multiplicity and invisibilities led to our success? The following warp seeks to answer this question.

### ***8.3 The warp – theories of multiplicity***

The central problem addressed in this thesis is how to manage and reduce conflicts caused by collisions of collective coherence. The immediate context is one team made up of multiple experts and stakeholders, all with their own histories, memberships, and allegiances to different groups/collectives. To function successfully as one team, they need to develop their own approach to dealing with others through building transcoherence capability. The weft in this chapter has shown this in action and we designed for this success by paying attention to factors drawn from multiple sources.

A chapter's warp is where I use a theoretical framework to throw more explanatory light onto the experiences described in the weft. For this chapter that is a little difficult as virtually all the frameworks mentioned in this thesis can be drawn on. However, I think there are two useful ways of conceptualising a framework in this case. First, by creating an approach I call *toolbox transcoherence*. Second, by turning to literature that considers our *human multiplicity of understanding*.



### **8.3.1 Toolbox transcoherence**

Metaphorically, my thesis can be considered a toolbox of transcoherence. Each chapter and interlude have been like reaching into a musical toolbox to select the best musical instruments appropriate for a particular orchestral piece. In each case a judgment is made of which combination of elements are required for the specific context. The chapters and interludes have each supported this transcoherence in different ways.

Each chapter has investigated a collision of collective coherence using a specific framework, including ideas, personality, paradigms, organisational culture, and fields of knowledge. The interludes have drawn on the literature of many disciplines to identify factors that can support the development of transcoherence in a disparate group. Combining the ideas of both the chapters and interludes offers a multidimensional theoretical approach, a type of mixing and combining of disciplines and perspectives. Putting this approach into action for the Roundtable meant that the combination of multiple factors created an orchestral effect that produced harmony instead of cacophony.

As satisfying as this was, through my research I have come to realise that this approach has a number of limitations. The number of possible theories/instruments is vast, making it impossible for any one person or team to be aware of all the frameworks that could be relevant to their needs. Also, each theoretical framework has its own depth and breadth of research, as demonstrated by the mass of references associated with the concepts in this thesis. It therefore requires a lot of time and energy for a person to become competent in the use of any of the frameworks, let alone multiple ones. In practice, it has also meant that this thesis has taken longer than expected to complete, largely in part because of the extensive reading that was required in multiple areas.

Finally, a toolbox transcoherence approach is still primarily a herding together of singular conceptual frameworks, each with its own coherent patterns of concepts belonging to a single primary discipline. A good example of this is personality. Psychologists claim the field for differences in personality, and the main area of contention is over trait versus type, not personality as one dimension of difference

between social groups. Standard disciplinary boundaries and silos apply, and bridging boundaries requires significant amounts of learning and change. My inclusion of personality with other frameworks was helpful for understanding the range of collisions, but there was little transdisciplinary literature or research that has used personality in this way.

In contrast, a number of authors have developed a broader and more coherent toolbox or framework for dealing with complex and wicked problems. An example being Kuenkel's (2016) multidimensional 'collective leadership compass'. Which brings me closer to different, more intuitive and accessible approaches that are available, and I explore some of these in the following section.

### 8.3.2 Our human multiplicity of understanding

Within the literature can be heard a small but growing voice. These authors seek to find the multiplicity required to deal with wicked problems within the human condition rather than through a transdisciplinary combining of paradigms. With this new approach, complex and wicked problems are not tackled through the integration of disparate, external patterns of expertise, but rather by tapping into the complex, multifaceted way humans understand the world around them. Different labels have been attached to this kind of proposition, and here I place them under the umbrella phrase of our *human multiplicity of understanding*.

For the purposes of this chapter I review the work of two seminal and often controversial authors<sup>67</sup>, Howard Gardner, and Valerie Brown (along with her main co-author, John Harris<sup>68</sup>).

In 1983,<sup>69</sup> Howard Gardner published a book that questioned the "common notion of intelligence as a general capacity or potential which every human being possess

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<sup>67</sup> See Schaler (2006) Howard Gardner Under Fire

<sup>68</sup> Val is one of my primary supervisors and I have the privilege of being a member of a writing group with John. This has given me significant access to both of them for discussion and critique of their thinking.

<sup>69</sup> My introduction to Gardner came in 1986 as part of my Education degree. Since then, I have collected each of his works as they became available, and I consider him one of the key influences on my thinking.

to a greater or lesser extent” (H. Gardner, 1999, p. ix). Rather than a single measurable capacity, such as IQ, Gardner proposed a redefinition of the concept of intelligence to “encompass many capacities” (H. Gardner, 2000, p. 14). This led him to identify multiple intelligences, originally seven and currently ten, based on his definition of intelligence as “a biopsychological potential to process information in certain kinds of ways, in order to solve problems or create products that are valued in one or more cultural settings (H. Gardner, 2011).

More recently, V. A. Brown and Harris (2014) have independently developed their own multi-faceted approach to tackling complex and wicked problems. Their stated goal is to “draw on the full capacity of the human mind and so reach a comprehensive understanding of the current era of transformational change” (p. 6). Like Gardner, they critique the limitations and fragmentation of traditional approaches to problem solving, particularly the dominance of a single mode of inquiry which “has been to reduce the matter to be investigated to one question at a time, to draw on physical evidence wherever possible, and to search for an expert to help find the answer” (p. 5).

In contrast, they contend that humans do not understand and make sense of their world in just one way. Rather, as multifaceted beings, situated in complex environments, we have multiple innate ways of understanding, all operating at the same time. Like Gardner they originally identified seven ways of understanding, but more recently reduced this to just five (V. A. Brown, 2018, 2019). They have labelled the combined use of these understandings as *collective thinking* (V. A. Brown & Harris, 2014). Whilst Brown recognises similarities with Gardner’s *intelligences*, she views the difference between them as “that the concept of intelligence is usually related to cognitive capacity while collective thinking in individuals involves feelings, experience and imagination” (2018, p. 281).

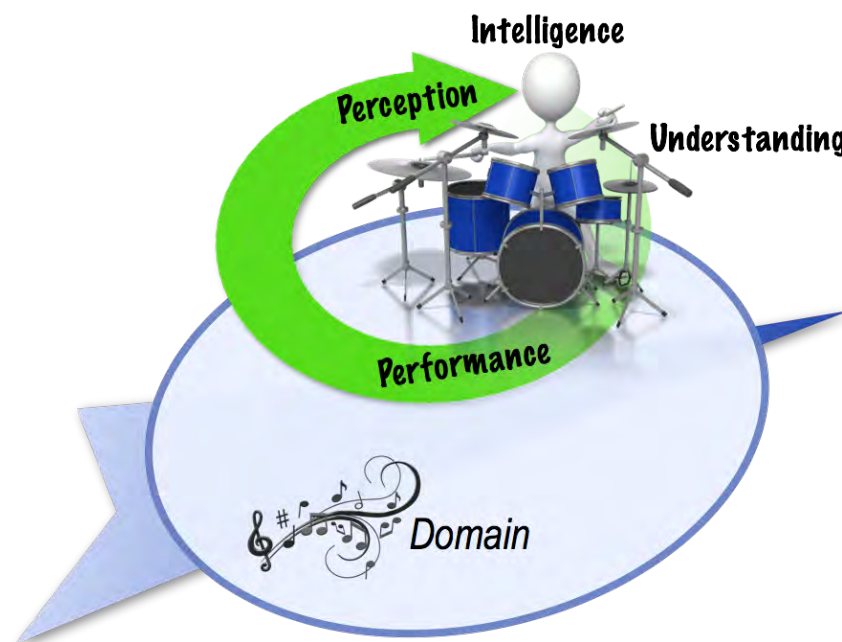
I partially disagree with Brown, since Gardner (2000) “stretched the meaning of intelligence” (p. 33), placing it within a more complex model than just cognitive. The similarities between the two theories becomes clearer when Gardner (2006b) defends himself against misunderstandings. He concedes that his early work was potentially confusing because he “tended to conflate intelligences and domains” (p. 294). He goes on to place intelligence within a dynamic model (which I have represented visually in Figure 38). In this model, intelligences are *bio-psychological*



*potentials* that utilise *sensory systems* to “make sense of perceptions” (p. 306). This intelligent sensemaking leads to *understanding*, which is demonstrated through a person’s *performance* of applying “knowledge, concepts, or skills... acquired in some kind of educational setting to a new instance or situation in which that knowledge is relevant” (H. Gardner, 2006a, p. 124).

These settings, also known as ‘domains’, are “social constructions ... areas of knowledge or practice that have evolved cumulatively within one or more cultural group” (H. Gardner, 2006b, p. 294). Thus, intelligence becomes just one element in a complex, dynamic model for comprehending the world. The circular arrow in Figure 38 shows the progression from the bio-psychological through to the social construction of knowledge. Within this movement it is *understanding* that aligns with Brown’s concepts, rather than *intelligence*, which acts as the precursor to understanding.

**Figure 38.** *My representation of Gardner’s model of understanding the world.*



This alignment can be made more explicit by looking at Gardner’s explanation of the role of multiple intelligences within a pedagogical approach that identifies “multiple approaches to understanding” (pp. 158-181). H. Gardner (2000) proposes seven ‘entry points’ for engaging students “which can be roughly aligned with specific intelligences” (p. 169) and this brings him closer to Brown’s (2018) use of multiple

understandings in collective learning. To demonstrate this alignment, I present a comparison of terms in Table 22.

The first column lists the variations of Gardner’s multiple intelligences. The middle column contains Gardner’s entry points to understanding. The last two columns list different versions of Brown’s multiple ways of understanding. The rows attempt to place the most compatible concepts next to each other. The resultant table shows clear similarities between a Gardner’s ‘entry points’ and Brown’s ‘understandings’.

In particular, they both agree on the dominance of the biophysical and quantitative approaches to understanding. As they move beyond traditional academic approaches, they both include aesthetic and social forms of understanding. They diverge after this on how best to “cut nature at its proper joints” (H. Gardner, 2006b, p. 294).

**Table 22. A comparison of multiple intelligences and ways of understanding.**

Multiple Intelligences	Entry Points	Multiple Ways of Understanding	
(H. Gardner, 1983, 2000, 2011)	(H. Gardner, 2000, pp. 169-172)	(V. A. Brown & Harris, 2014)	(V. A. Brown, 2019)
Logical-mathematical	Quantitative, logical	Physical	Biophysical
Linguistic	Narrational		
Bodily-kinesthetic	Hands on		
Spatial			
Moral (rejected 2000)		Ethical	Ethical
Musical	Aesthetic	Aesthetic	Aesthetic
(Spread across all)		Sympathetic	Sympathetic
Interpersonal	Social, Narrational	Social	Socioeconomic
Intrapersonal		Introspective Reflective	
Naturalist (added 2000)			
Existential (added 2011)	Existential		
Pedagogical (added 2011)			

For my purposes either of these two approaches offers a good example of how an individual’s multiplicity of understanding can support the development of transcoherence to manage conflicts between collective coherences. Both are exploratory and break new ground, but I am particularly interested in the potential of the more recent work by V. A. Brown (2018). Therefore, for the next section I will use her framework which defines five different but interconnected ways of thinking.

1. **Biophysical thinking:** the physical environment in which an issue was set. Arrived at by observation, experience and reading formal reports.
2. **Socio-economic thinking:** the social environment, including cultural rules and the socio-economic system (a prevailing emphasis in Western culture). Arrived at through personal involvement, and the narratives and memories of your community.
3. **Ethical thinking:** the principles governing relationships between individuals and between individuals, environment, and society. Arrived at through a sense of right and wrong, in relation [to] a personal commitment to a way of life or a religion.
4. **Artistic thinking:** sensitivity to the patterns in natural and in social systems, arising from the capacity for inspiration and creativity within each human being. Arrived at by both expressing, and rebelling against the surrounding cultural norms.
5. **Sympathetic thinking:** recognizing a shared understanding with another human being or group, or with another species. Arrived at through openness, trust, and shared experience. (p. 280)

#### ***8.4 Weaving the weft and the warp: from singularity to multiplicity***

Taking Brown's definitions of the five ways of understanding, I apply them here to the description in the weft. This will only be a brief outline to show the potential of this approach.

##### **Biophysical thinking**

The most formal and recognised approach for understanding in the group was biophysical. Roundtable participants naturally utilised written reports, data, graphs, and quantitative research in their presentation of ideas. When disagreeing, people tended to fall back on disciplinary methods of arguing. As experts, many could draw on significant bodies of knowledge to make sense of the new information they received.

My emphasis on the invisibles can also be seen as another aspect of the biophysical. Unlike the formal representation of ideas, the impact of material objects in the environment was mostly tacit. It was only in the discussion afterward that

participants became aware that this impact was intentional. Even then, this was not seen as a way of understanding but only as a means of making people comfortable.

### **Socio-economic thinking**

There was a recognition of cultural diversity in the group, and therefore individuals would clarify the cultural rules of their own collective coherence to the rest of the group. This way of understanding was reinforced through the use of the TACSI research and videos, showing real young people commenting on their experience of transition. Participants also regularly used stories to convey meaning, particularly in their vignettes. These stories helped to create a vision of the cultural setting that people worked in and of the young people they were caring for.

### **Ethical thinking**

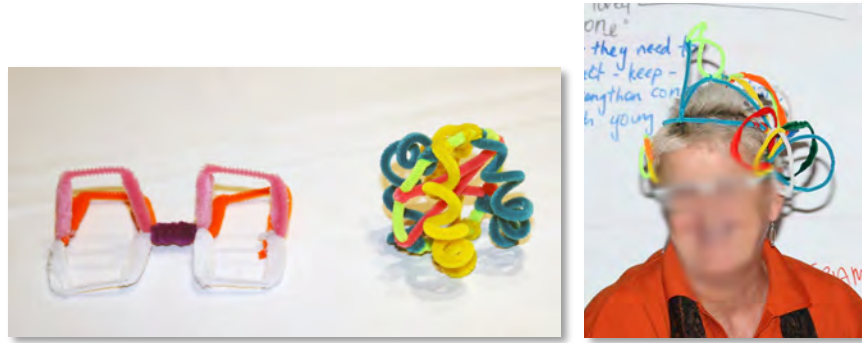
The focus of the event, youth in transition, was seen by most as implying an ethical imperative; that is, to improve the process for the sake of those involved. This normative overlay was not questioned but remained mostly tacit. This may reflect an alignment of values for those involved. A different combination of members may have pushed ethical issues more to the front.

### **Artistic thinking**

There was no formal recognition of the role of artistic thinking at the Roundtable. However, there is substantial evidence in the data, particularly the many photographs taken over the three days. Individuals expressed themselves creatively through a number of informal avenues. These were not seen as part of their justification of their understanding, but it nevertheless buttressed and enriched the claims they made. This was most obvious in the vignettes, but also emerged in how people wrote on the whiteboards.

Secondly, artistic thinking was evident in the informal social interactions that helped to nurture the synergies between people. The friendly competition to produce pipe cleaner art is an example and some samples are shown in Photo 10.

**Photo 10. Examples of informal artistic expression**



### **Sympathetic thinking**

A shared understanding arrived at through openness, trust, and experiences was clearly evident in the Roundtable. Yet this was not considered a way of understanding the complexity of the issues discussed. Instead, like other participants in my research, individuals observed this as a consequence of the ‘tone set by the facilitator’ or as a fortunate byproduct of the activities.

The previous few paragraphs show how my data from the Roundtable could be reinterpreted using a framework of multiple ways of human understanding. It illustrates another useful way to “cut nature at its proper joints” (H. Gardner, 2006b, p. 294).

## **8.5 Conclusion**

In this chapter I have used data from my research to demonstrate that developing what I have called transcoherence is, in practice, possible. In the weft, the research participants described that their experience of the Roundtable was unusual but positive. The design of the event took into account multiple factors that align with the elements in my transcoherence model.

In the warp, the insights from the many frameworks used in this thesis can be seen in how and why we designed the various activities over the three days. This can be considered a form of toolbox transcoherence, drawing on relevant theory to meet the specific needs of a given team and event. Another framework was also introduced, making sense of the issues through multiple ways of understanding.

In the weaving section of this chapter, I outlined a potential application of multiple ways of understanding by reflecting on the Roundtable using the five ways of understanding listed by V. A. Brown (2018).

Whatever approach is used to manage potential collisions of collective coherence, there is a need for genuine engagement between team members. This can be developed using *generative dialogue*, as described in the following interlude.



## Interlude: Learning from Dialogue

### *Introduction*

The concept of *dialogue*, as used in this thesis, is a particular form of conversation, defined by Isaacs (1999) as “a shared inquiry, a way of thinking and reflecting together... A living experience of inquiry within and between people” (p. 9); and by Bohm (1996) as “a flow of meaning in the whole group, out of which may emerge some new understanding” (p. 6).

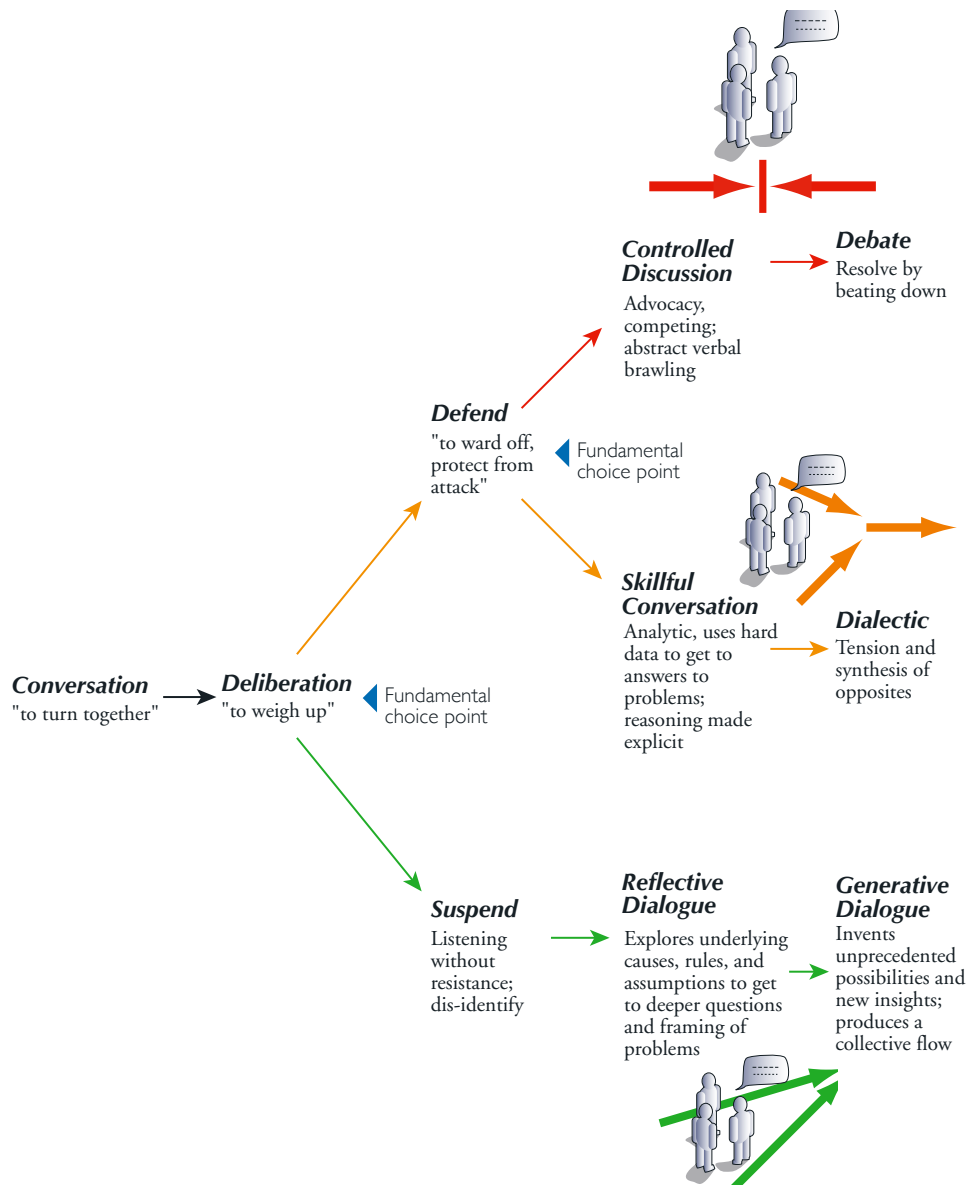
Dialogue was essential throughout the project for developing transcoherence. It was used to support the development of self-awareness, relationships, and collaboration. Dialogue helped participants deal with collisions of collective coherence, even though that terminology did not exist at the time. Specific forms of dialogue were used as tools and my research incorporated dialogue in the interview technique described in Chapter 2. Consequently, dialogue is relevant to every part of this thesis. However, I have placed this interlude after Chapter 8: A Symphony of Worlds, because the event described in that chapter is a detailed, lived example of the ideas here presented.

### *From documentation to dialogue*

My research participants were *knowledge workers* (Law, 2016), who are traditionally individualistic and document-based in western organisations (Golsby-Smith, 2001). Information is gathered, written down and then passed on to others for response. Those participating in my research were comfortable with this approach but were also aware of its limitations and consequences. The most significant of these are specialisation, fragmentation, and isolation of knowledge into silos, as discussed in Chapter 6, the effects of which are exacerbated when tackling a wicked problem as in the A2J2 project. An antidote to knowledge fragmentation can be through ways of interacting that promote better understanding of *others* (Conklin, 2005, p. 4); that is, *dialogue*.

The term *dialogue* has a lengthy history, with multiple authors and many different models reflecting their diverse purposes. Typologies of dialogue describe it as a subset of conversation (P. K. Alexander, 2004). Figure 39, an adaptation of Isaacs' (1999, p. 41) diagram, shows multiple forms of conversation and is the tool I used throughout the project to clarify the scope of dialogue and its differences from other forms of conversation.

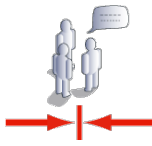
**Figure 39. Conversation options** (adapted from Isaacs, 1999, p. 41)



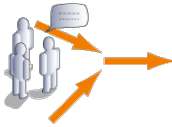
The flow in Figure 39 moves from left to right through 'fundamental choice points' where a person decides the purpose and nature of their conversation. Beginning with general conversation, the forms of interaction become more specialised towards three different types of conversation on the right of the diagram. Identifying



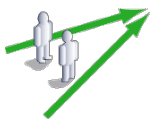
these three types of conversation helped participants to question the nature of their interactions. Of the three, only dialogue seeks to increase knowledge without protecting a particular position.



**Discussion and debate:** are used to refine knowledge through the process of opposition and competition, with one position coming out on top; exemplified by politics, the law, and the public service.



**Analytic and dialectic conversation:** look to the synthesis of opposites and the use of data to build knowledge; exemplified by the hard sciences and philosophy.



**Reflective and generative dialogue:** are exploratory and creative, seeking to uncover and understand the 'other'; exemplified in counseling and pastoral care. This last group is the focus of this interlude.

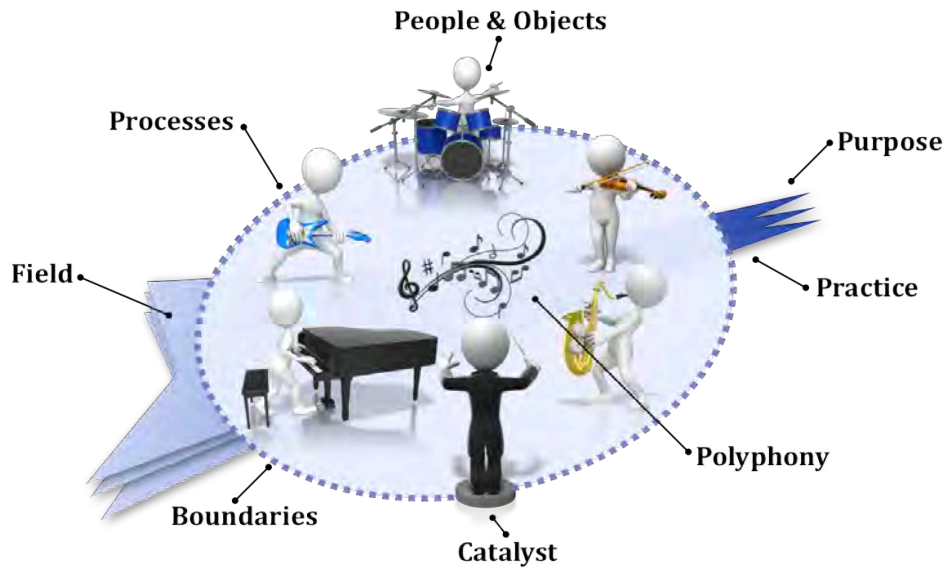
The high proportion of lawyers and public servants in the project meant that debate was the default position. Participants were generally experts in winning through competition, and saw many interactions as between *adversaries* (Makau & Marty, 2013, p. 11). Consequently, part of my role was to facilitate relevant professional development for project members into what dialogue is and how to do it. The elements of dialogue I chose fit nicely onto my transcoherence model.

## ***Dialogue and transcoherence***

Drawing from multiple sources on dialogue I have chosen dialogic elements relevant to my thesis. Core Visual Heuristic C.10 again shows the eight categories of transcoherence and this section sets out an overview of how dialogue relates to these categories. The metaphor of a musical group helps to ground the concepts that follow. The flow of communication between members is organic, creative, and generative. The conductor acts as a facilitator to bring the parts into a harmonious whole.

With dialogue, a collective of *people* operate with *purpose* in a given *environment* and use *objects* and *processes* to aid in their goals. Each experience of dialogue is unique but there do seem to be some common progressions in how they unfold, and that is the subject of the next section. Although all the categories of transcoherence are relevant, the central one for dialogue is people.

**Core Visual Heuristic C.10. Aspects of dialogue on transcoherence model**



## People (Ontology)

At its core, dialogue is a different way of relating to people. Therefore this element of the model contains a number of crucial ontological assumptions about being human and how we relate to each other (Holub, 2016). A number of these assumptions are associated with particular authors, and I begin with Martin Buber (1878–1965). In his work *Ich Und Du* (I And Thou) (1970/1923, pp. 56-62) he presents two basic types of potential human interactions. Kent (2017) summarises these as follows:

1. 'I-it': an instrumental approach where people are treated as a means to an end
2. 'I-you' or 'I-thou': a relational or dialogic approach where people treat others as inherently valuable (p. 14).

His view is normative with a stated goal of learning how to more often engage with people as I-thou, commenting, "the wise offer only two ways, of which one is good,

and thus help many” (Buber, 1970/1923, p. 9). Most authors agree that a genuine valuing of people is a foundational aspect of dialogue, and although simple, it is quite profound in its effect.

A second ontological assumption is about the human need for *coherence*, and for this I turn to David Bohm (1917-1992). In Chapter 2 of his book, *On Dialogue*, Bohm (1996) explores the relationship between dialogue and thought. He begins by claiming that our opinions are the result of past thought based on our experience, but as we are socialised into particular ways of thinking, we don’t question our own opinions. Therefore, “in a dialogue, people coming from different backgrounds have different basic assumptions” (p. 11). This leads to incoherence in a group, with people “going in all sort of directions, with thoughts conflicting and cancelling each other out” (p. 14). In contrast, “if people were to think together in a coherent way, it would have a tremendous power” (p. 14). To achieve this transcoherence requires dialogue, and at the centre of dialogue is the attitude and skill of *suspension* (pp. 20-21). Thoughts, impulses, and judgments are suspended, put on hold through deep listening to others. At the same time a person in dialogue becomes more self-aware of their own reactions, impulses, feelings, and opinions as they occur. Together these can then be used to uncover assumptions, and lead the group to a new more harmonious state that aligns to my concept of transcoherence.

Other attitudes are seen as requisite for genuine dialogue. First, *unconditional positive regard* for others, which is traced by Kent (2017, p. 16) back to the psychologist Carl Rogers (1902–1987). I would go further, back to Jesus of Nazareth, and employ the concept of *agapé*, a type of sacrificial love, that seeks the best for the other (Morris, 1981). In both cases it is a relational attitude, in action, that does not make acceptance conditional or require something from the other before offering help. This is difficult to achieve and maintain (Kent, 2017, p. 17) and is entwined with trust and hope. All three are addressed together in the Coda: These Three Remain: Trust, Hope and Love.

Other attitudes frequently associated with dialogue include respect, empathy, care, receptivity, equality (Cayer, 2005), risk, mutuality, propinquity, commitment, sympathy, genuineness, and spontaneity (Kent, 2017). All these relational attitudes function within a dialogic purpose.

## Purpose

The profile of a dialogic event experienced by a group is the result of the interaction of all the elements in the model, and begins with the reason for having the conversation, its purpose. Clarifying purpose is aided by asking appropriate questions (Bojer, Roehl, Knuth, & Magner, 2008, pp. 18-19), such as: What are the reasons for getting a specific group together? What is the underlying need we hope to meet? Who should be included? and How much time will we require?

Many of the differences about dialogue in the literature reflect the different reasons authors have for using dialogue as a process. Table 23 lists different purposes for dialogue, the relevant authors, and how important it was for us during the project.

**Table 23. Purposes for engaging in dialogue from the literature**

Purpose	Authors	Importance
Awareness raising	(Bakhtin, 1991/1975; Bohm, 1996; Bojer et al., 2008; Cayer, 2005; Makau & Marty, 2013)	X X X X X
Collaboration	(Rose-Anderssen & Allen, 2008; Schwartz & Conklin, 2014)	X X X X X
Trust building	(Kent, 2017; Makau & Marty, 2013)	X X X X
Developing shared meaning	(Bohm, 1996; Bojer et al., 2008; Conklin, 2005; Isaacs, 1999)	X X X X
Collective Thinking	(Bohm, 1996; Freire, 1970/1968; Isaacs, 1999; Kent, 2017)	X X X X
Exploration	(Bojer et al., 2008; Conklin, 2005)	X X X X
Innovation	(Bojer et al., 2008; Conklin, 2005)	X X X
Relationship building	(Bohm, 1996; Bojer et al., 2008; Buber, 1970/1923; Kent, 2017; Makau & Marty, 2013)	X X
Increasing understanding of ourselves and the world	(Bakhtin, 1991/1975; Bohm, 1996; Bojer et al., 2008; Conklin, 2005; Isaacs, 1999; Kent, 2017)	X X
Learning	(Bojer et al., 2008; Isaacs, 1999)	X X
Problem Solving	(Bojer et al., 2008; Makau & Marty, 2013) (Isaacs, 1999)	X X
Social transformation	(Bojer et al., 2008; Ellinor & Gerard, 1998; Freire, 1970/1968)	X X
Organisational Development	(Bushe & Marshak, 2015; Tsoukas, 2009)	X X
Dealing with conflict	(Bohm, 1996; Bojer et al., 2008; Cuppen, 2011; Makau & Marty, 2013; Yankelovich, 1999)	X X
Design	(Jenlink & Banathy, 2008; Rose-Anderssen & Allen, 2008)	X
Decision making	(Bojer et al., 2008)	X

The importance column illustrates that awareness raising and collaboration were the most important reasons for dialogue in the project, while building trust, developing shared meaning, through collective thinking and exploration were also needed for achieving the goals of the project.

## Objects, processes, and catalyst

Objects are the physical resources and technology that make up the things used to support a dialogic event. Processes include the arrangements, rules, and patterns of behaviour used to develop the dialogue during the event. A catalyst, usually a designated facilitator, guides the use of objects and processes towards the agreed purpose. Most authors assume face-to-face interactions (Kent, 2017), but some have explored the potential of virtual dialogue (Goranzon, Hammaren, & Ennals, 2006). Specific patterns of objects and processes, based on a particular dialogical theory, have been packaged as dialogical techniques or tools. Some have become quite famous, such as *The World Café* (J. Brown, Isaacs, & Community, 2005) and *Appreciative Inquiry* (Cooperrider, 2001; Seligman, 1992). Others have been collected and published as handbooks (Cooperrider, 2004) or tool boxes (Bojer et al., 2008; Bushe & Marshak, 2015; Conklin, 2005; Zeisset, 2006).

I have employed many different combinations of objects and processes, some of which are described in Chapter 8: A Symphony of Worlds. Here, though, it is worth highlighting the role of *boundary objects* as dialogical learning mechanisms. Akkerman and Bakker (2011) identified four mechanisms by which boundary objects can increase understanding across social worlds. Each mechanism has characteristics that support dialogical learning processes. These mechanisms and associated processes are shown in Table 24.

**Table 24. Dialogical learning mechanisms and associated processes**

Dialogical learning mechanisms	Characteristic processes
1. Identification	Othering Legitimizing coexistence
2. Coordination	Communicative connection Efforts of translation Increasing boundary permeability Routinization
3. Reflection	Perspective making Perspective taking
4. Transformation	Confrontation Recognizing shared problem space Hybridization Crystallization Maintaining uniqueness of intersecting practices Continuous joint work at the boundary
Source: (Akkerman & Bakker, 2011)	

Identification here refers to raising awareness of a person's own frame of meaning and acknowledging the legitimacy of other frames of meaning. Coordination is about practice and action, how people make communicative connections and begin the process of reflection and transformation. Reflection is key to making explicit tacit understandings and to begin the process of considering alternative perspectives. Finally, transformation refers to changes in thinking that lead to changes in practice. Transformation processes are important in a collaborative approach to tackling wicked problems, as they involve critically analysing relationships in systems and constructing meaning between stakeholders.

The process of dialogue is usually supported by a facilitator (my role in the project), as was described in the interlude, *Introducing Catalytic Facilitation*. As with the musical group shown in Core Visual Heuristic C.10, all three elements need to work together to achieve a successful dialogue event.

## **Field (environment)**

The *environment* within which dialogue occurs, or the *field* on which the activities play out, is a category discussed in the interlude, *Taking Note of Invisibilities*, and in Chapter 7: *Competing Fields*, but a few specific points are appropriate here.

The environment includes the space/time context. Isaacs (2017) states that a well-designed environment “can create an atmosphere of shared awareness” that can be transformative (p. 1). The physical aspect includes the room or venue, the furniture and its arrangement, as well as the lighting, noise and smells. Isaacs also includes less tangible elements such as a *sense of space* (p. 233). Other authors speak of the importance of creating a *safe relational space* (Schwartz & Conklin, 2014), that promotes openness and the expression of divergent perspectives. Psychological safety is also linked to process elements in the model such as confidentiality (Ellinor & Gerard, 1998, pp. 186-187).

Time, as part of the environment, includes the combined histories of the dialogue participants, including their previous interactions with each other (Isaacs, 1999, p. 235). Broader historical rhythms, locally, nationally and internationally, also

impinge on the environment. Finally, the use of time during the event connects it directly to the other elements in the model.

The combination of these space/time elements creates the different types of potential *dialogic environments* (Bojer et al., 2008, p. 34). Isaacs (1999) has an equivalent term, *conversational fields*, “made up of the atmosphere, energy, and memories of the people who are interacting” (p. 234), that can be developed such as to help produce dialogue or inhibit and destroy it (p. 238). His *conversational fields* are different from Bourdieu’s concept of fields (as described in Chapter 7). This is an example of my synoptic use of multiple frameworks. Both ideas are incorporated into my concept of fields in transcoherence.

Isaacs develops his idea of conversational fields to include four specific types of conversational fields through which a group usually needs to progress to engage in generative dialogue. I will look at this in detail in the next section of this interlude.

### ***Dialogue in action (polyphony)***

Wherever possible I structure a dialogue event to make the most of all the categories in the model, preparing for and designing what might occur. Part of my design is to leave large openings for emergence and serendipity. Consequently, each dialogue event unfolds in a unique manner, and yet through this unfolding some common patterns frequently appear. I am not alone in noting the importance of design and seeing patterns, so this section draws on the work of Isaacs (1999, 2001, 2017) as someone who’s thinking most resembles my own on this topic.

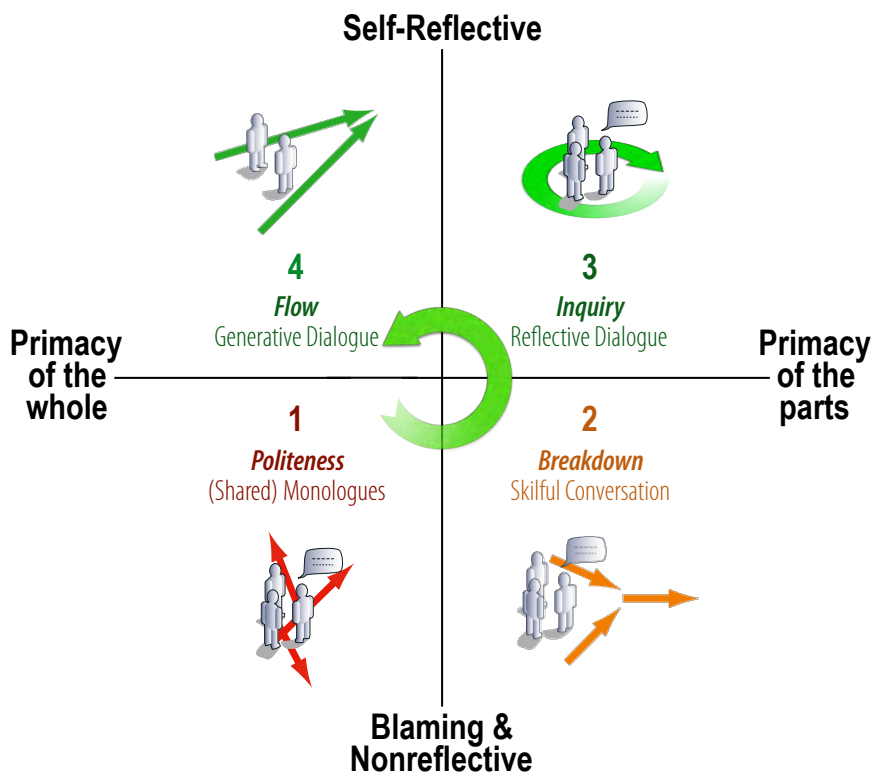
In a recent article, Isaacs (2017) beautifully summarises designing dialogic activities.

A moment doesn’t come out of nowhere. It is developed through careful preparation. With the right type of attention, participants can create a “container”: a field of shared meaning and intense personal and emotional energy, in which they can safely generate insightful conversations that are powerful enough to spark change, while remaining within the bounds of mutual respect. These are the kinds of conversations that bring unrealized potential into being (p. 5).

A container for dialogue is a fragile thing. Although design sets the stage, the container must be nurtured through different *fields* or phases of conversation. Figure 40 is an adaptation from Isaacs' (1999) map of conversational fields. It shows a progression through four fields, three of which include forms of conversation from his earlier model, represented in Figure 39. In the first field, labeled *Politeness*, I introduce a new graphic icon, representing monologue.

The four-quadrant model is framed by two normative axes with the top left quadrant or field the preferred and eventual goal. There is a dynamic within fields and between fields. Whilst the interactions in each field are somewhat stable, instability builds until a crisis point is reached. If resolved, the group progresses to the next field. If not, they may return to an earlier field. Each field presents new challenges and benefits for participants. There are similarities here with my triple loop learning model (Core Visual Heuristic E.1), presented in the interlude, Listening to Dissonance.

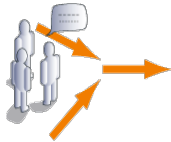
**Figure 40. Movement through conversational fields** (adapted from Isaacs, 1999, p. 261)







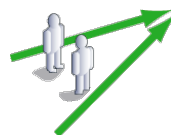
**1. Politeness:** Here “people talk politely and superficially, and retreat to smalltalk when the topic gets too intense” (Isaacs, 2017, p. 11). This is really a collection of shared monologues that can build frustration which, in turn, leads to a crisis of emptiness or pointlessness, and people either give up or move into the next phase (P. K. Alexander, 2004, p. 272).



**2. Breakdown:** Here people start openly “expressing their frustration about others and about the status quo” (Isaacs, 2017, p. 11). At its best those involved may have a skillful conversation, but if the crisis is not resolved the field can collapse and people retreat back to politeness, or leave. The crisis here is one of suspension. If individuals are willing to let go and consider the thinking of others, they move on to the next phase.



**3. Inquiry:** Here the conversational field has strengthened sufficiently for people to begin to reflect on their own assumptions and talk about what they think and feel. This is a shift in “focus from the forces outside themselves to the way they make meaning in their own mind, and why they hold to it” (Isaacs, 2017, p. 12). The potential crisis in this phase is one of fragmentation. As people understand the depth of their differences they realise how much is required for dialogue (Isaacs, 1999, p. 279).



**4. Flow:** Here, if the field is strong enough the group moves into generative dialogue, a phase where “people become aware of the primacy of the whole ... when genuinely new possibilities come into being” (p. 279). In this phase people often experience a *collective flow* described by Isaacs as a time “when synchronicities arise more often ... One person will think of something and another will say it. People become more aware in essence, of the primacy of the undivided whole that links us all” (p. 280).

## Conclusion

Looking back over my research and its wealth of data, I believe it is reasonable to call this a dialogical thesis. Although the A2J2 project intended to have a written final output, the ongoing process was filled with people interactions, often between different worlds of understanding. My observations are mostly of these interactions

and the more formal types of conversation. Finally, my interviewing technique was also dialogic in nature.

The previous chapter described the Roundtable as a symphony, rather than a cacophony. This was only possible through the use of generative dialogue. The theories of Bohm (1996), Isaacs (1999, 2001, 2017), and Akkerman and Bakker (2011) were foundational in my design of dialogic activities. They also underlie much of my thinking around transcoherence. With this last interlude complete, the stage is set for the final chapter, From Collisions to Transcoherence.

## Chapter 9: From Collisions to Transcoherence

This final chapter brings both of the structural metaphors of this thesis to completion. The musical suite of chapters and interludes comes to a symphonic finale, and the threads of warp and weft in the tapestry are drawn together. This allows me to step back and view the finished performance as a whole and answer two questions:

1. What conclusions can I draw from my research findings?
2. How should I evaluate my thesis?

As stated in Chapter 1, the primary goal of my research was to address the problem of collisions of conceptual worlds in heterogeneous teams. The team that I studied were exploring policy related to resolving wicked problems (Rittel & Webber, 1973). These collisions have previously been linked to team fragmentation along dormant faultlines residing in differences between team members. My interest has not been with tackling the content of specific wicked problems or policy, but with adding to the understanding of the process of collective thinking, learning, and action. To support this endeavor, each chapter has included a critical moment from my fieldwork, and this conclusion will continue that pattern. As is fitting for the final chapter, the following critical moment comes from the very end of the project.

### ***9.1 Critical moment – “They left it to die”***

My final interview was with Bruce, one of the graduates, in late August 2014. I had left the A2J2 project at the start of the year and had since had little contact with the participants. When I had left, the final report was being sent to the Secretary, and I had asked to meet with Bruce to find out how the project had finished. He asked to meet away from the office, so we walked to a little grove of trees, and sat in the sun beneath the new leaves of spring.

Bruce was clearly upset as he explained ... “So yeah, it failed for a lot of reasons. It wasn’t one, but it’s sad. It’s a sad day, Craig”. I tried to clarify

with him how something so successful in December 2013 had failed so badly. "It was left to die," he told me. "There were a series of unfortunate circumstances that caused the group to kind of split. One after another, people left, until there was only Dolores and me, and she was very anti-A2J2".

What about the Secretary and executive? I asked. "Angelique left and Catherine took a voluntary redundancy," he responded. "The report was sent to the Secretary, but he never read it. I followed it up a few times but got no response. It just died out through inaction, you know, neglect." He went on, "The Secretary said, 'All this great work's going on in the Department', mentioned the A2J2 for its innovation, and that was the very last time I ever heard anything. So, it was kind of like a shake of the hand, well done pal, and shelve that project".

I asked how this had affected him, and he replied, "I'm pretty upset. I didn't sign up as a public servant to sit around doing nothing. I wanted to make legitimate changes and this was an amazing opportunity." Pressing him further, he said, "I just saw it as a failure because we didn't achieve, on the ground, we didn't achieve something for someone outside of the building".

After some discussion he acknowledged that the work the team did "was excellent and very innovative", the Roundtable had been a "roaring success", and he was "very proud of the work I did." As we spoke further he summed it up nicely, saying, "I guess it depends how you measure success ... That those things were all killed off doesn't negate all the good stuff."

The interview went for about an hour, and then we parted for the last time, each of us going back to our work. This moment was emotional for me, symbolising the end of my field work and the A2J2 project. It was an unexpected end: conflicted and contradictory. It is an excellent example of a collision of collective coherence over expectations of success and the conclusion of the project.

It also provides me with an exemplar for discussing the findings of this thesis as a whole. The story of my research unfolded over time, drawing on a rich and complex range of data (the wefts), combined with relevant theoretical frameworks (the warps). This transdisciplinary approach results in multiple additions to the body of knowledge associated with teams tackling wicked problems. It also requires a form

of evaluation that aligns with transdisciplinary research (Willettts & Mitchell, 2017). To summarise this complexity, I have chosen four main areas of my research. The first address the central themes of the research. The final one addresses some overarching issues relating to transdisciplinary doctoral theses.

#### 1. Understanding the current problem

- Exploration of the richness and entangled nature of the lived experience of conflicts in heterogeneous teams: *incoherence*.
- Creation of an umbrella term and model which take account of the underlying cause of conflict and fracturing in heterogeneous teams: *collective coherence*.

#### 2. Understanding a desired future state

- Creation of an umbrella term and model to describe the ideal for functional heterogeneous team interactions: *transcoherence*.

#### 3. Understanding the change required to move from the current to future states of functioning heterogeneous teams

- Development of a triple loop learning in response to incoherence.

#### 4. Quality criteria unique to transdisciplinary research

- Drawing out some distinctive aspects of this thesis by applying a recent framework to my research.

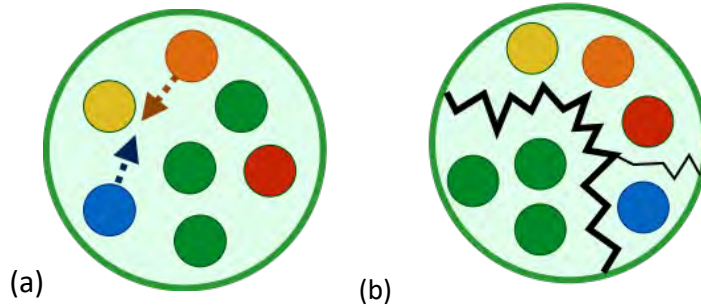
## ***9.2 Understanding the current problem***

This section presents conclusions from my findings related to the problem of conflict, a feature of most heterogeneous teams. The literature on this issue is fragmented, approaching the problem from multiple perspectives, each reflecting the paradigms of the associated disciplines. In Chapter 1, I introduced a series of diagrams to describe the different ways this problem can be explained. I return to these now to illustrate my conclusions.

A dominant perspective on conflict in teams focuses on single points of difference between individuals, as depicted in Core Visual Heuristic A.15, part (a). Although this was evident in my data, my focus was on an issue that has not been well addressed in the literature: disagreements between diverse team members based on a deeper conflict of colliding trajectories of whole, alternative, but still coherent,

views of reality. For this I have relied on a minority of authors who have identified that “people live not in the same world with different labels attached to it but in radically different conceptual worlds” (Hiebert, 2008, p. 15).

**Core Visual Heuristic A.15. Diverse teams: (a) membership from separate worlds (b) faultlines**



The literature from this perspective conceptualises these *worlds* as made up of groups, or collectives, whose members share something crucial in common. Therefore, from this viewpoint, conflicts in heterogeneous teams are seen as resulting from faultlines being activated between sub-groups, as depicted in part (b). These kinds of conflicts were evident in my data, but with one important caveat. The richness and entangled nature of the lived experience of my participants showed a larger mix of conflicts than any of the individual streams of literature. In addition, no single term in the literature adequately described the complexity of the collisions I observed.

### 9.2.1 Collective coherence: an umbrella term, a framework, and a metaphor

In reviewing the relevant literature, it became clear that authors differ on which groups should be included as the basis for faultlines. Sociologists pick standard social groupings such as gender, race, class, age, or education. Linguists gravitate to the use of terms such as discourses, narratives, epistème, or semiotic systems. Some scientists acknowledge differences in paradigms. Philosophers take a high-level perspective, considering differences of worldviews, national perspectives, or underlying philosophies. Finally, policy and organisational authors lean toward terms such as frames, organisational culture, or areas of expertise.

All of the labels listed above describe diversity in group membership through dividing humanity into different coherent collectives. The chosen label will determine which faultlines are recognised in the diverse team, and therefore lead to only a limited number of collisions being addressed. Whilst there is value in all of the terms, none of them can stand in for the others. I concluded, therefore, that a more-inclusive umbrella label was needed, one that was flexible enough to incorporate the many different configurations of groups that might conflict in a team. Consequently, I invented a new term, *collective coherence*, in order to meet that need.

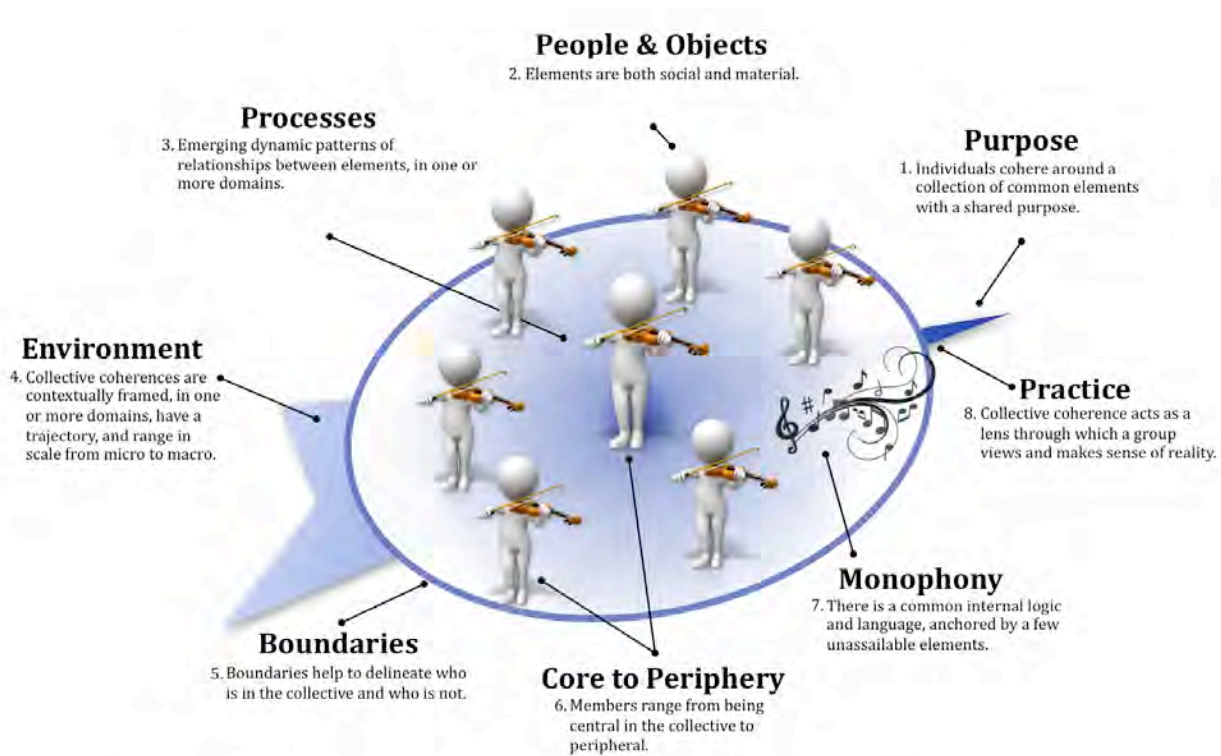
Analysing *collisions* from my data showed that in each case the normality of a person's collective coherence was transgressed, resulting in an uncomfortable *feeling of incoherence*. This brings me to my model of eight elements of collective coherence (shown here again in Core Visual Heuristic B.3). From my data, a collision triggering a sense of incoherence could come from the transgression of any one or more of these elements.

### **A collective coherence framework**

My framework of *collective coherence* (see Interlude: Clarifying Collective Coherence), has its roots in concepts from the literature, combined with the observations of my research participants. It provided a stipulative definition that 1) was a synthesis of the literature, and 2) goes beyond the individual concepts to create a new whole. I validated its role as an umbrella term by checking that each of the specific collective coherences mentioned in the chapters conform to the elements set out in the model.

As the framework is an end product of my research, it was not available in this form to support my data gathering. However, each element has strong links to specific parts of my fieldwork, as can be seen in Chapters 3-7. A significant conclusion from my research is that this model can function as a diagnostic heuristic, helping to identify which combination of elements triggered a collision. This not only will support theoretical analysis, but also acts as a tool for practitioners.

### Core Visual Heuristic B.3. *Elements of collective coherence as a monophony.*



For example, in the critical moment above, Bruce was distressed that such a successful project should be left to die, and this made no sense to him. It transgressed his normality as a public servant in a number of ways. First, the *purpose* of his work should “achieve something for someone outside of the building”. Second, the *processes* leading to the death of the project were not honouring of his public service values. Third, a key *object*, the report, was perceived as mishandled by a key *person*, the Secretary.

These additions in the understanding of the problem of conflict in heterogeneous teams have been derived from a combination, in each chapter, of fieldwork (weft) and a form of bricolage of multiple theoretical frameworks (warp). They have produced an enriched understanding of how collisions occur. But they are only the beginning of the story. I also explored what a healthy, diverse team would look like, and what capabilities are required for its functioning.

## 9.3 Understanding a desired future state

The identified problem of conflict implicitly contains an alternative desired future state. This is observable in the literature and also expressed by the project



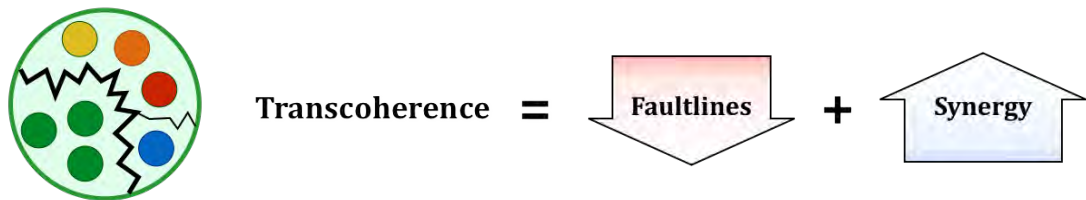
participants. People imagined, often tacitly, a team where collisions could be reduced or stopped altogether. Again, the literature on this form of functionality is fragmented and often contradictory.

This research makes another contribution to the body of knowledge by aligning these fragments through the introduction of a second umbrella term, *transcoherence*. As stated previously, I have proposed *transcoherence* as being:

- an individual's **ability** to consciously straddle different intellectual worlds, and
- a multidisciplinary group's **capacity** to reduce social faultlines and develop synergies.

As with *collective coherence*, the construction of the concept of *transcoherence* comes from combining the literature and the participants' observations. *Transcoherence* is about how people can understand and manage the multiple worlds existing within a team. It has two parts, as shown in Figure 41.

**Figure 41. A transcoherence equation**



- A reducing or deactivation of faultlines
- An increase in synergy

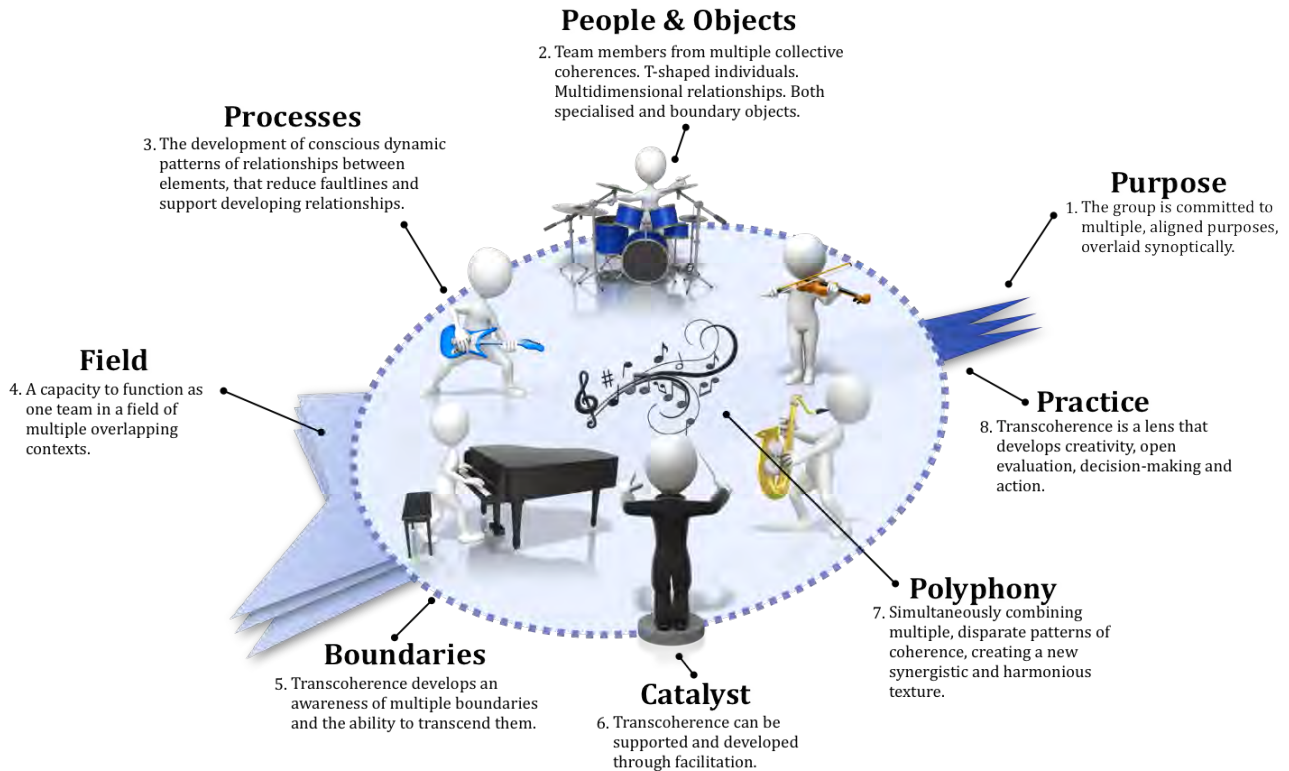
My fieldwork was replete with teams, yet very few had developed what I have called *transcoherence*. An exception was the Roundtable, described in Chapter 8. In contrast to the detailed nature of that chapter, here I make broader comments on the elements that make up my concept of transcoherence.

### 9.3.1 Elements of transcoherence as a polyphony

To illustrate the elements of transcoherence, I again offer the metaphorical model of a heterogeneous team as a musical group. Each of its eight elements supports the capability of the group, but all need to be activated for a fully developed

transcoherence capability. Different disciplines focus on different elements, but none of the literature proffers a model with all the elements contained within a disparate group. Core Visual Heuristic C.11 shows my final version of the model in this thesis, and the points that follow summarise my findings and conclusions.

### **Core Visual Heuristic C.11. Elements of transcoherence**



Without using the term, participants described transcoherence as an ability to take into account the complex multiplicities of working with diverse experts, and a willingness to adapt during events and activities. Although the sections following identify individual elements of transcoherence, the model needs to be seen as an organic adoption of all elements working together.

### **Polyphony and synoptic goals, not consensus**

Much of the literature on wicked problems stresses the need for some form of shared understanding and consensus of purpose (Chapter 1). Other literature and my own research contend that this is unrealistic. I now conclude that this desire is best explained as an attempt to replicate the accepted monophony of the dominant collective coherence. A single voice works well with simple technical problems, but

a mixed group working on a problem has very different tacit expectations and multiple reasons for action.

From my fieldwork, the IDCG provides a good example of this. I would label their form of collective agreement as a *synoptic* approach to purpose and success. By this I mean that the multiple goals and desires for success were left intact in a web of inter-relationships. This allowed each person's specific goals to be met.

A synoptic approach to purpose promotes a polyphonic set of voices in the group. I have described this as simultaneously combining multiple, disparate patterns of coherence, creating a new synergistic and harmonious texture. This element of transcoherence validates the many different melodic lines representing each member of the team. This in turn requires a shift in thinking about people, objects and processes.

### **People, objects, and processes**

I discovered that a highly functional heterogeneous team requires very different understandings of people, objects, and processes. To explain this, my chapters and interludes have turned to less traditional understandings of some basic ontological beliefs. First, my findings support the view that people are multifaceted in intelligence (H. Gardner, 1983) and ways of understanding the world (V. A. Brown & Harris, 2015).

I have combined these and other concepts from the literature to describe the T-shaped expert, adapting this idea and rebadging it to mean a transcoherent expert. Based on a capital 'T', the vertical bar denotes the depth of one's disciplinary knowledge, while the crossbar represents one's ability to operate across disciplinary, functional, or organisational boundaries. This crossbar includes skills and knowledge different to standard disciplinary expertise, with a focus more on creativity, flexibility, and relational and interpersonal aspects of work.

In a similar manner I have drawn on literature that reconfigures traditional understandings of objects. This occurs throughout the thesis but is specifically dealt with in the interlude, Taking Note of Invisibilities. This interlude introduced the

concepts of affordances and agency, making the point that objects are not neutral, and therefore the social and material can be reassembled to promote synergies and multiplicity rather than reinforce faultlines. In a similar way, *boundary objects* were found to help reduce these faultlines, as discussed in the interlude, *Overcoming Boundaries*.

Similarly, it is possible to rearrange how space and time are organised, to facilitate specific forms of action. This can include rules and patterns of behaviour that promote dialogue during work activities. All of these reconfigurations of people, objects, and processes help to increase synergies by validating multiplicity, and decrease faultlines by diffusing boundaries.

### **Fields and boundaries**

The ideas of Bourdieu (1977, 1986, 1990, 1993), and associated literature were significant in developing my understanding that a team can function in a field of multiple overlapping contexts; which I call a synoptic field. As described in Chapter 7, a crucial question is not so much who collided with whom, but on where the collision occurred, on whose *turf*? The social as well as the physical space where people interact both have serious implications for whose collective coherence is privileged or denied.

This was a pervasive factor throughout my fieldwork, and in Chapter 7 I revisited previous collisions to view the events through the new lens of Bourdieu's fields, habitus, and capital. This more sociological approach is an important addition because it is an element of team interaction that is often ignored or presented in isolation.

Directly connected to this was the discovery of the need to develop an awareness of multiple boundaries and an ability to transcend them. The interlude, *Overcoming Boundaries*, discussed this in detail and noted multiple mechanisms for achieving this; including learning at the boundary, boundary spanning, boundary objects, and reframing. Most of these are dialogical in nature, and dialogue is key to many of the elements of transcoherence, including the nature of a catalyst.

## The practice of transcoherence

All of the elements of transcoherence come together in a new form of work practice. A heterogeneous team that is functional will work differently. This brings me to another key question: what needs to change to enable heterogeneous teams to intentionally embrace the multiple functional worlds that exist in them?

### ***9.4 Additions to understandings about change***

Thus far, I have concluded that new umbrella concepts were needed both for the problem of intra-team conflict, and for what fully functional heterogeneous team capability looks like. Together these two can be described as current and potential future states of a team. This section answers the questions that naturally follow: *What needs to change to move from collisions to transcoherence, and how do individuals and teams learn to be transcoherent?*

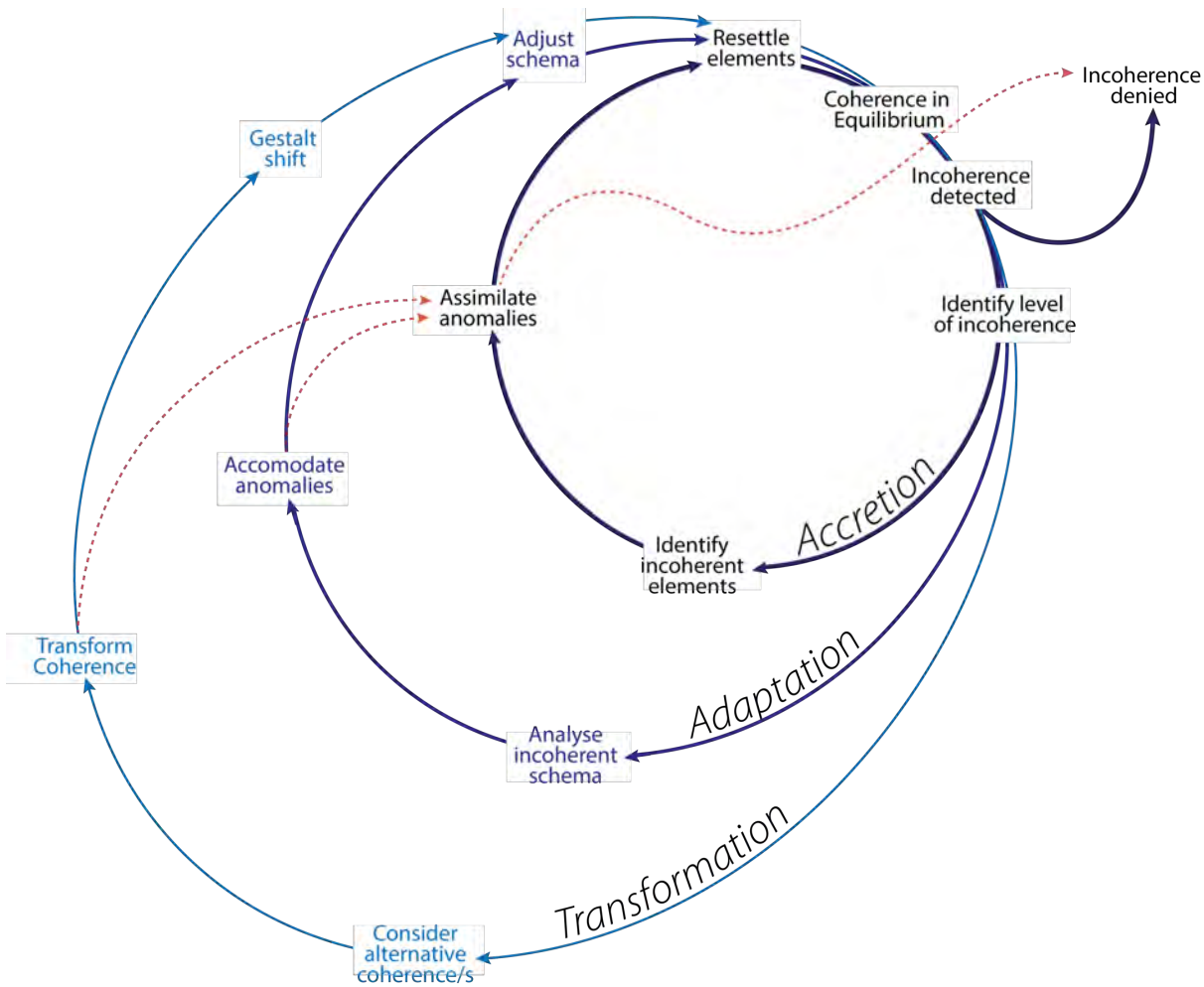
Returning to my critical moment, Bruce struggled with the ending of the project because he initially assessed it from within a singular collective coherence. This is a key finding that emerged early on in my research. That is, individuals living tacitly in single worlds, and teams privileging a single type of expertise, with both relying on single theoretical frameworks in response to complex issues, and using singular methodologies for researching wicked problems. This tendency to default to one group's view of the world and tacitly respond to situations as a representative member of that group, needs to be replaced with a mindset of intentionally embracing the multiple functional worlds that exist in heterogeneous teams. This shift is multifaceted, takes time, and requires a particular form of learning and change.

#### **9.4.1 Triple loop learning in response to incoherence**

For a team to build transcoherence as a capability requires a means of recognising and dealing with the sense of incoherence that comes from collisions. To show how this might be done, I introduced a triple loop learning model in the interlude, *Listening to Dissonance*. There I described each main step. In this chapter I use it as a framework for linking the experiences and theories used in each chapter. The

model (Core Visual Heuristic E.2) shows multiple possible responses to incoherence, giving teams a deliberate set of choices. The three loops represent three related but differentiated waves of change. My comments begin with the point where all the loops start from and return to: ‘coherence in equilibrium’.

**Core Visual Heuristic E.2. Triple loop learning in response to incoherence**



**Coherence in equilibrium**

I consider ‘Coherence in equilibrium’ to be a state rather than a step towards something else. Each chapter has shown evidence of this, and the various theoretical frameworks have helped to fill out the reasons why. For example, the personality clashes of Chapter 4 would never have been part of my research if the equilibrium of team members had not been disrupted along that particular faultline.

One further point on equilibrium: individuals and groups in this state are still utilising multiple ways of understanding and making sense of their environment. This state differs from disequilibrium in that everything operates *normally*, as expected. This sense of normality may be reinforced by an unconscious filtering of data and cues, so that only what confirms the collective coherence is noted, as discussed in Chapter 3: Nonsensical Ideas. At some point however, something we experience will not fit our normality and will trigger a sense of incoherence.

### **Incoherence detected (triggered)**

Differences between team members sometimes trigger dormant faultlines whilst leaving others undisturbed. The wefts of each chapter show individuals shaken out of equilibrium by a trigger resulting in a sense of incoherence. Such triggers in my data included ideas that appeared to be nonsense, unacceptable personalities, invalid research paradigms, incompatible expressions of culture, and competing priorities from different fields of expertise. These examples show that a trigger can be based in very diverse aspects of work lives. Responding to a real-life trigger required an adaptive response to unpredictability. Unfortunately, my research has shown that a primary response to detecting incoherence was to deny its existence.

### **Incoherence denied**

Given a strong drive to remove the unease related to incoherence, one option is to not engage with the problem at all but instead deny its existence. This response made the development of any team transcoherence virtually impossible. Over time our Core Team learned to recognise this response, and we found that the DesignGov people were also very familiar with it.

Team members labeled individuals and groups with this tendency in a number of ways. We spoke of those who ‘got it’ and those ‘who didn’t’. June from DesignGov talked about people being ‘open’ or ‘closed’ to design thinking. In the collaboration group, *denialists* were described as ‘stuck in their silo’ or having ‘siloed thinking’. In a few cases some individuals we met were labeled ‘fundamentalists’ because of their rejection of anything that differed from their worldview.

Whichever label was used at the time, I would now describe these individuals or groups as having a *closed mono-collective coherence*: a view of reality that cannot entertain any other perspective. This aligns with various theoretical frameworks and concepts including Kuhn's (1962) idea of normal science, Festinger's (1957) cognitive dissonance, and Bourdieu's (1977) combined concepts of field, habitus and capital. Common to all these theories are the view that some form of incommensurability inhibits a willingness to consider alternative perspectives.

When we were able to move beyond incoherence denial, we were able to move into an exploration of the incoherence and what triggered it.

### **Incoherence explored**

If incoherence is not denied then an attempt can be made to deal with it, starting with exploration. This stage can act as a form of triage for how an individual or group will attempt to resolve their unease. Each chapter has described different ways in which we explored the emerging problems associated with the triggering of incoherence. However, here I want to focus on the tools used to support diagnosis and exploration.

An initial first step in exploration can be the diagnosing of a collision to see what elements of collective coherence have been transgressed. This requires *self-reflection*, which can itself generate feelings of unease, and therefore needs to occur in a supportive environment. Gradually, individuals and the team as a whole shifted in what they perceived as a valid use of our time, shifting as well in their perception of the purpose of their work to include exploration.

With exploration as a validated purpose, the team required tools to help them surface their differences, the most fundamental of which was *dialogue* (see the interlude, Learning from Dialogue). Dialogue in group sessions was supported with the use of boundary objects such as Post-it notes and the ever-present whiteboard. Other supportive objects and structures have been described in the Interlude, Taking Note of Invisibilities, but each of the chapters also raise some specific examples that relate directly to particular forms of collision.



The data described in the chapters show that exploring incoherence was chaotic and happened over time, a gradual uncovering of the underlying structure of the original coherence. As thinking became less tacit, we were able to assess how significant the sense of incoherence was for both individuals and the group as a whole, which leads to the next stage in the model.

### **Travelling the three loops**

As described in the interlude, *Listening to Dissonance*, the three loops in Core Visual Heuristic E.2 are not hierarchical, but show different possible paths to responding to incoherence. The loops also vary in thickness, representing the expected usage. Thus, the first loop is thickest as it is likely to be the most utilised. Each level is qualitatively different, and each successive loop (1, 2, 3) involves greater complexity, with more anchor points and relationships, and is correspondingly more difficult to work through.

Which loop is travelled along depends on how much of the current structure of the individual or group needs to change. Every chapter also shows that how people responded to collisions was dependent on how willing they were to undergo change. For transcoherence to develop, individuals need to successfully negotiate the appropriate loop in their learning. Yet learning itself was not the final stage. An aspect of transcoherence in a team is that the members have learned to live with the changes they have undergone.

### **Living with a changed coherence**

The model's three loops show that a person can get back to the initial state through different journeys, but eventually incoherence is resolved and they return to a state of equilibrium. Yet in each learning loop they have become a different person. My research has shown that these changes can range in complexity. A person may have simply added to their stock of coherent understanding; or they adapted their thinking to accommodate new ways of thinking; or, in some cases their whole coherence was transformed, and they have made a gestalt shift in how they make sense of the world. Whatever the journey, there are consequences to this form of learning.

First, how individuals viewed the world became more complex and they became more aware of others' belief systems. They moved from a mono-worldview to a multi-worldview. Second, this sometimes resulted in a shift in allegiances. To use Bruce as an example again, he felt disillusioned by his organisation as he struggled to understand why the Department would want to let the project die. This relates to a third consequence that became clear from my research: the change in a person's coherence can't go back to the way it was. As one person put it, 'you can't unsee what you have just seen'. Some people did retreat to their original positions (see Chapter 4: Personality Clashes), but in these cases they had not actually changed in their own coherence. This finding aligns with the literature on threshold concepts (discussed in Chapter 3: Nonsensical Ideas).

Finally, there were often flow-on conflicts due to new configurations of coherence. Given the consequences already mentioned, some team members found that conflict had not stopped, but had moved to new types of collisions with collectives with which they were previously in agreement.

## ***9.5 Quality criteria unique to transdisciplinary research***

The research into transdisciplinarity has marched on throughout my research and the writing of this thesis. Recently, a book was published with a chapter proposing quality criteria for evaluating doctoral research like mine (Willets & Mitchell, 2017). Therefore, I have chosen to briefly address their framework in this section, although their criteria have been addressed in passing already in this conclusion, and evidenced throughout the thesis. They propose five quality criteria:

- Criteria 1: Substantial research that makes an original contribution to knowledge and other broader societal outcomes
- Criteria 2: Demonstrated reflexivity and responsiveness
- Criteria 3: Research integrity as demonstrated by credibility, legitimacy, alignment
- Criteria 4: Appropriate breadth and depth of engagement with both research context and literature
- Criteria 5: Coherent argument across diverse conceptual and methodological approaches and perspectives (p. 126)

### 9.5.1 Criteria 1: An original contribution to knowledge etc.

The previous three sections in this chapter have addressed this criterion in detail. The only additional comment I have to offer is that some of my contributions have come from crossing disciplinary boundaries and making linkages between concepts that are not normally associated together. In addition the linkages between theory and practice demonstrate a contribution to wider societal outcomes.

### 9.5.2 Criteria 2: Demonstrated reflexivity and responsiveness

Following the authors I define reflexivity as

finding strategies to question our own attitudes, thought processes, values, assumptions, prejudices and habitual actions, to strive to understand our complex roles in relation to others (Willetts & Mitchell, 2017, p. 129)

Every section of this thesis has attempted to do this. Each chapter has focused on a different dimension of being human and used theoretical frameworks to aid in questioning my own and other's attitudes etc. Within chapters, the weft of my weaving metaphor has provided a thread of lived personal experience; both mine and that of the participants. This includes access to what people expressed as their thinking and how it changed. The final, weaving sections in each chapter note how the team and I responded to the collisions we encountered. It also shows how my research developed over time.

### 9.5.3 Criteria 3: Research integrity

This criteria has three components, credibility, legitimacy, alignment.

**Credibility:** This component for transdisciplinary research relates to validity, trustworthiness and authenticity (Willetts & Mitchell, 2017, p. 130). The structure of the thesis has supported this component. In the warp of each chapter I have attempted to retain the authentic voice of the authors of particular theoretical frameworks, whilst weaving them into my overarching adaptive bricolage. At the

same time, the weft in each chapter allows the voices of participants to be heard in their own terms.

**Legitimacy:** The authors state that legitimacy in this context must reflect “the embeddedness of transdisciplinary research within its research context and stakeholders, such that the research process and outputs genuinely include and represent the views of these actors.” (Willetts & Mitchell, 2017, p. 130) Each chapter has demonstrated this principle, with the views and decisions of participants made explicit.

**Alignment:** refers here to refers to “alignment between epistemology, theory, methodology, methods, data, analysis, interpretation and claims.” This has been addressed in my methodology chapter and in how I approached theoretical frameworks for each chapter. Again, the structure of the thesis works to support an action research approach that acknowledges the importance of learning from both theory and practice.

#### **9.5.4 Criteria 4: Appropriate breadth and depth**

I have been faced with the tension of this criterion since the start of my research. Everybody I have interacted with has had an opinion on what should or shouldn't be included, and where the boundaries of my research should lie. In the end it has been my responsibility to decide the level of detail and breadth provided in the finished product.

As the authors state “Transdisciplinary research requires engagement with a greater breadth of literature than disciplinary research, since its nature involves integration of multiple disciplinary perspectives.” (Willetts & Mitchell, 2017, p. 131). At each stage of the thesis I have explained my decisions for choosing particular pieces of literature and the level of detail presented. As I stated in my prelude “The use of authors and literature will be indicative of the relevant theories, without attempting to be exhaustive.’

### 9.5.5 Criteria 5: Coherent argument

The authors describe coherence in terms of

*how the conclusions follow on from the introduction and the process, and how different disciplinary and lay perspectives have been synthesised in a meaningful, logical and convincing way (Willetts & Mitchell, 2017, p. 133).*

I have attempted to make the meta-argument of my thesis clearer through the use of structural metaphors and by my synoptic layering of the multiple theoretical frameworks presented in the chapters. This has meant that the thesis does not have a traditional linear movement of argument from chapter to chapter but that each chapter overlays a different perspective with them all being drawn together in the final movement.

In addition, the invention of umbrella terms enabled me to create labels that span the specific concepts preferred in individual disciplines. Finally, this chapter has sought to capture the overarching findings. All of these things together provide a high-level view of the complexity of dealing with collisions of collective coherence.

## 9.6 Conclusion - From dissonance to polyphony

As with most doctoral theses, this one has taken up a large part of my life for many years. During that time, I have seen the concept of wicked problems become increasingly mainstream. Consequently, the issue of collisions of conceptual worlds in heterogeneous teams has become a growing concern for large organisations facing these types of problems. Therefore, my research is timely and meets both theoretical and practical needs by adding to the understanding of the process of collective thinking, learning, and action.

My data, drawn from a year embedded in a functioning federal government project team, has provided an essential richness for better understanding the entangled nature of the lived experience of conflicts in heterogeneous teams; that is, *incoherence*, and in particular, the sense of dissonance that results from this perceived incoherence.

Identifying these experiences of incoherence as types of collisions has enabled me to tap into current literature in multiple disciplines. Each of the different groups in conflict have been gathered together under the one umbrella term of *collective coherence*.

In response to the expressed need for a better future state, mentioned by my research participants and the literature, I have introduced another umbrella term and concept, *transcoherence*.

With these three concepts in place, my research has been able to explore multiple examples of how a team can move from social faultlines and incoherence, to a functional state of transcoherence through a version of triple loop learning. This has been enabled by my use of a catalytic facilitations of a collaborative action research methodology. Although I encountered a number of limitations to this approach as I put it into action, this innovation was effective and enabled me to respond and intervene at multiple levels.

And so, I come to the end ... Almost.



## Coda: These Three Remain: Trust, Hope and Love

Like *prelude*, *coda* is another musical term, defined as:

a concluding event, remark, or section ... A more or less independent passage at the end of a musical composition, to bring it to a satisfactory close ... It's usually short and adds a final embellishment beyond a natural ending point (Delbridge, 2005).

So, in the same way as the prelude hinted at what was to come in the thesis, the Coda hints at what might come after its conclusion, and with it I wish to make two points.

The first is that the conclusion to my thesis, presented in the previous chapter, is not the end of this research. Although the written document that goes out to examiners has been completed, the ripples of the ideas, theories and experiences of all those connected to the A2J2 project continue to spread outward. Careers and lives were changed by the very act of conducting my research, particularly my own. This may be common to a lot of research activities, but I think it is important to acknowledge, as it places the thesis in a much broader temporal context.

The second point relates more to the content of the findings. I began with the theme of multiplicity and I end with one final example that occurred at the Roundtable.

Towards the end of the first day of the Roundtable, each table responded to the question: What is the most important thing for tackling a wicked problem? From all of the discussions, a single concept emerged that all agreed on: *trust*. It was also agreed that this was a fundamental human attribute.

On the second day I asked a similar question but refined it by asking how the last few days might have changed what they saw as important. The group retained *trust* and added *hope*. When this came out, I laughed and joked that I knew what the group would come up with on the third day.

Blank looks followed, except for a Christian from the Wayside Chapel who chuckled and nodded. Not wanting to preempt anything, I said no more.

Sure enough, during the final session the group added to *trust* and *hope* a third human attribute, *love*<sup>70</sup>.

The experience described above acts in a similar way as this coda. We had finished for the day and the question was designed to pick up on the most prominent point for those attending. They had all personally dug deep into issues related to tackling wicked problems. This produced excellent discussion and collaboration, including many important and technical insights into policy development, government, and dealing with stakeholders. Yet underneath all these good ideas was a recognition that wicked problems are created and dealt with by humans. If everything is stripped back to its most essential, humans are relational beings and they need *trust*, *hope* and *love* to tackle wicked problems. Therefore, *these three remain*.

In this thesis I have addressed multiple ways that collisions of collective coherence can occur and be dealt with. Multiple theoretical frameworks have been used to explain the experiences of the participants. All of these have been important but, in the end, there are always further ways of making sense of the data and some of these are deep and intuitive.

I am not alone in noting this. For example, two authors who have presented technical and sophisticated approaches to dealing with complex issues have also reminded their readers of the importance recognising our core humanity. Petra Kuenkel (2016) warns her readers that we can get off track and when

“passion is missing in our collaborative endeavour, our contribution lacks strength and spirit, and the difference we make fades... We have become disconnected from our heart” (p. 256).

She goes on to challenge all of us to ask the question “Does what we do answer to our hearts?” (p. 257). Likewise, Donella Meadows (1999, 2008) spent decades

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<sup>70</sup> The selection of these three attributes was eerily similar to 1Corinthians 13:8-13, “these three remain: trust, hope and love”



developing her theory of leverage points, and yet the following quote shows she also embraced a more intuitive approach:

“In the end, it seems that mastery has less to do with pushing leverage points than it does with strategically, profoundly, madly, letting go and dancing with the system.” (Meadows, 2008, p. 165)

In a mostly similar way, I could say about my own work that mastery of transcoherence is as much about strategically, profoundly, madly, letting go and dancing with the others in your team: trusting, hoping and loving.



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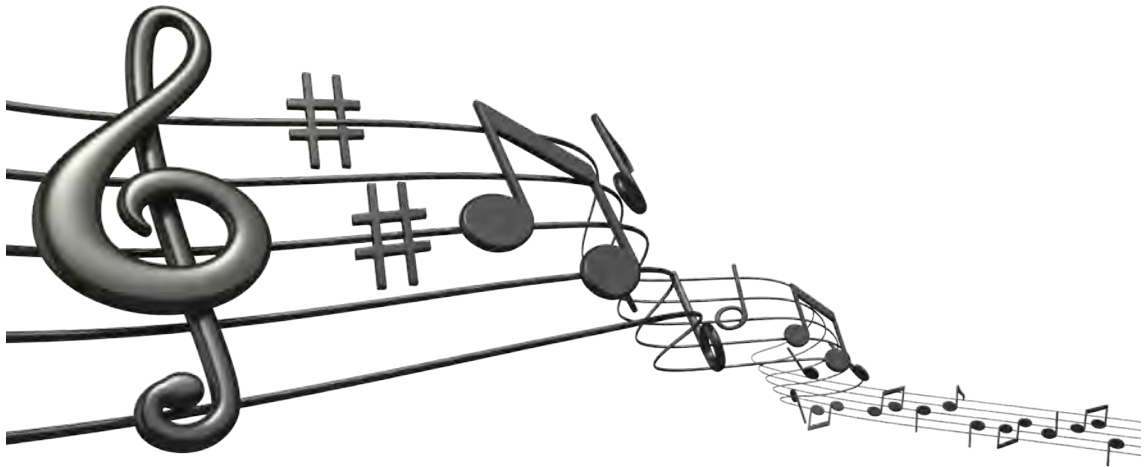
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# Appendices



## **Appendix 1**

**Thesis outline**

**The Who: Map of groups involved in the A2J2 Project**

**Thesis timeline**

**Action research wave**

**Collective coherence visual definition**

**Transcoherence visual definition**

**Triple loop learning response to incoherence**

## **Appendix 2: Personality 'type' vs 'trait'**

## **Appendix 3: Example personality type description**

## **Appendix 4: Ethics forms**

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# One Team: Where Worlds Collide

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## *Setting the Scene*

Prelude: Introducing Multiplicity

Chapter 1: Introduction and Thesis Overview

Interlude: Clarifying Collective Coherence

Chapter 2: Research Context & Methodology

Interlude: Listening to Dissonance

## *Collisions of Collective Coherence*

Chapter 3: Nonsensical Ideas

Interlude: Speaking About the Tacit

Chapter 4: Personality Clashes

Interlude: Gaining Legitimacy

Chapter 5: Opposing Paradigms

Interlude: Overcoming Boundaries

Chapter 6: Incompatible Organisational Cultures

Interlude: Taking Note of Invisibilities

Chapter 7: Competing Fields

Interlude: Reflecting on Catalytic Facilitation

## *Bringing It All Together*

Chapter 8: A Symphony of Worlds

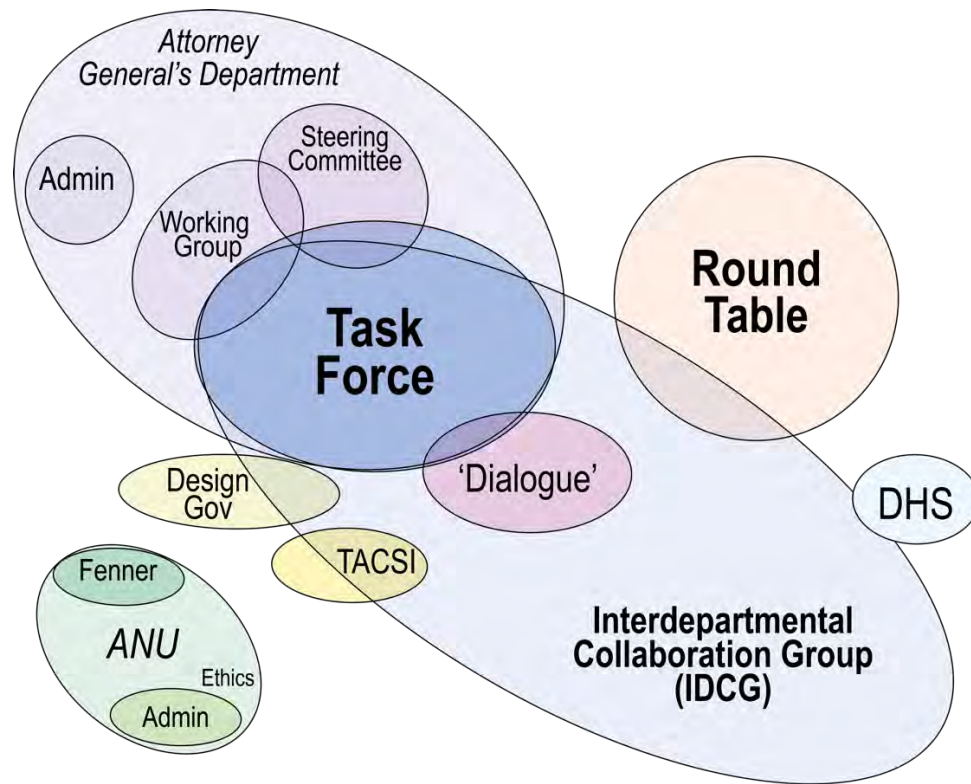
Interlude: Learning from Dialogue

Chapter 9: From Collisions to Transcoherence

Coda: These Three Remain: Trust, Hope & Love

# The Who

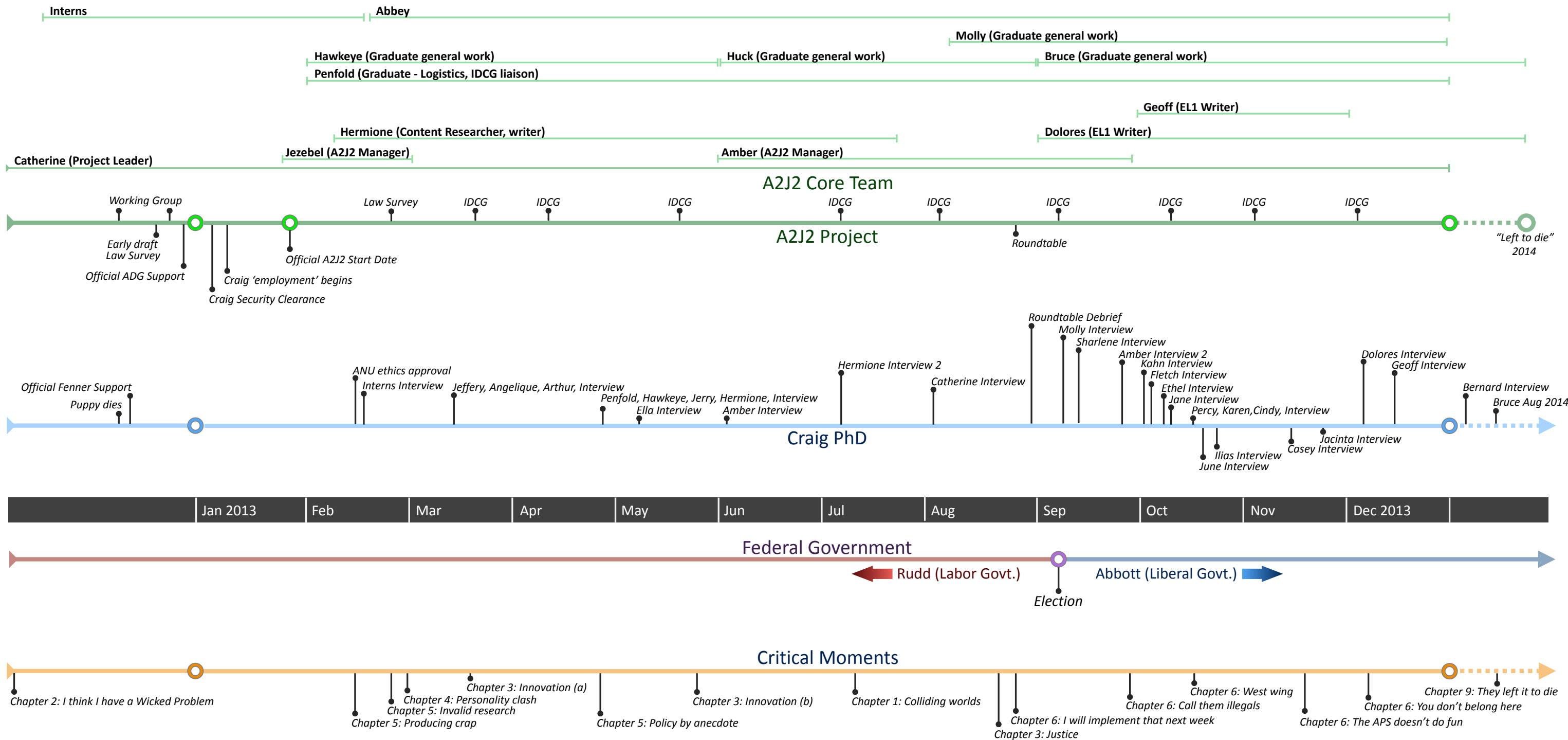
**Figure 3.** *The Groups Involved in the A2J2 Project*



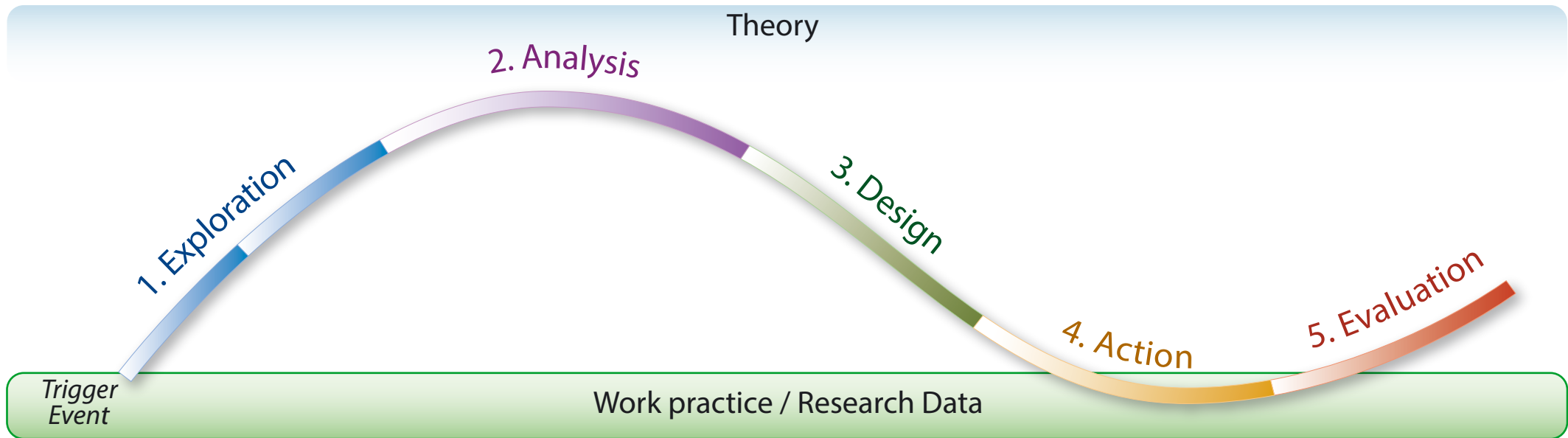
**Table 1.** *A2J2 Task Force Team Pseudonyms & Roles*

Leadership	Position	Project Role
Catherine	Branch head	Project leader
Samantha	Co-branch head	No project role
Jezebel	EL2	Early 2013
Amber	EL2	Mid to late 2013
<b>A2J2 Task Force</b>		
Penfold	Grad	Logistics, liaison
Hawkeye	Grad	General work
Molly	Grad	General work
Bruce	Grad	General work
Huck	Grad	General work
Abbey	Intern	Researcher
Dolores	EL1	Writer
Geoff	EL1	Specialist
Kahn	EL1	Specialist
Hermione	PhD	Academic, content research
Craig Ashhurst	PhD student	Consultant, Process & facilitation

# Thesis Timeline

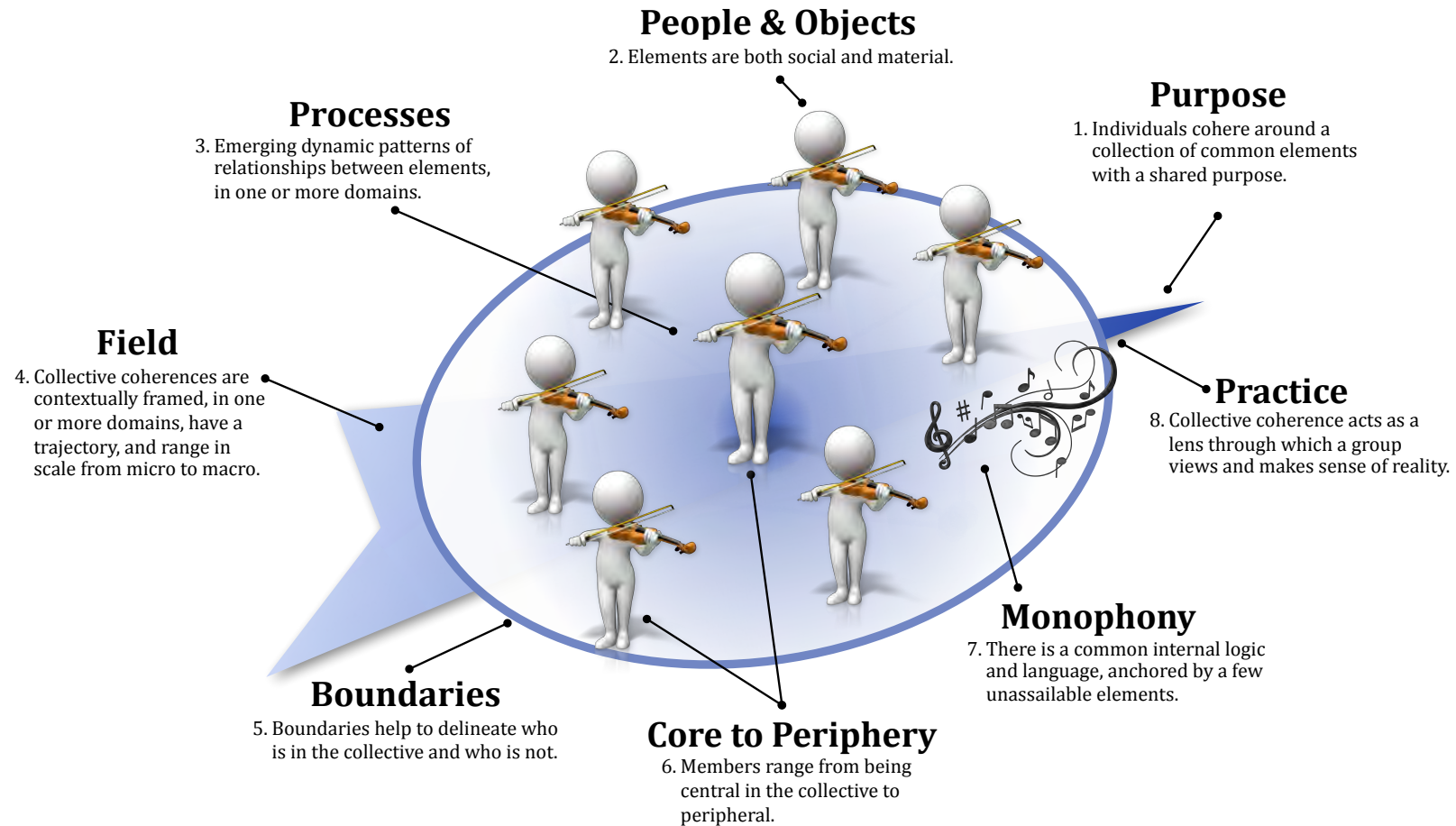


# Action Research Wave



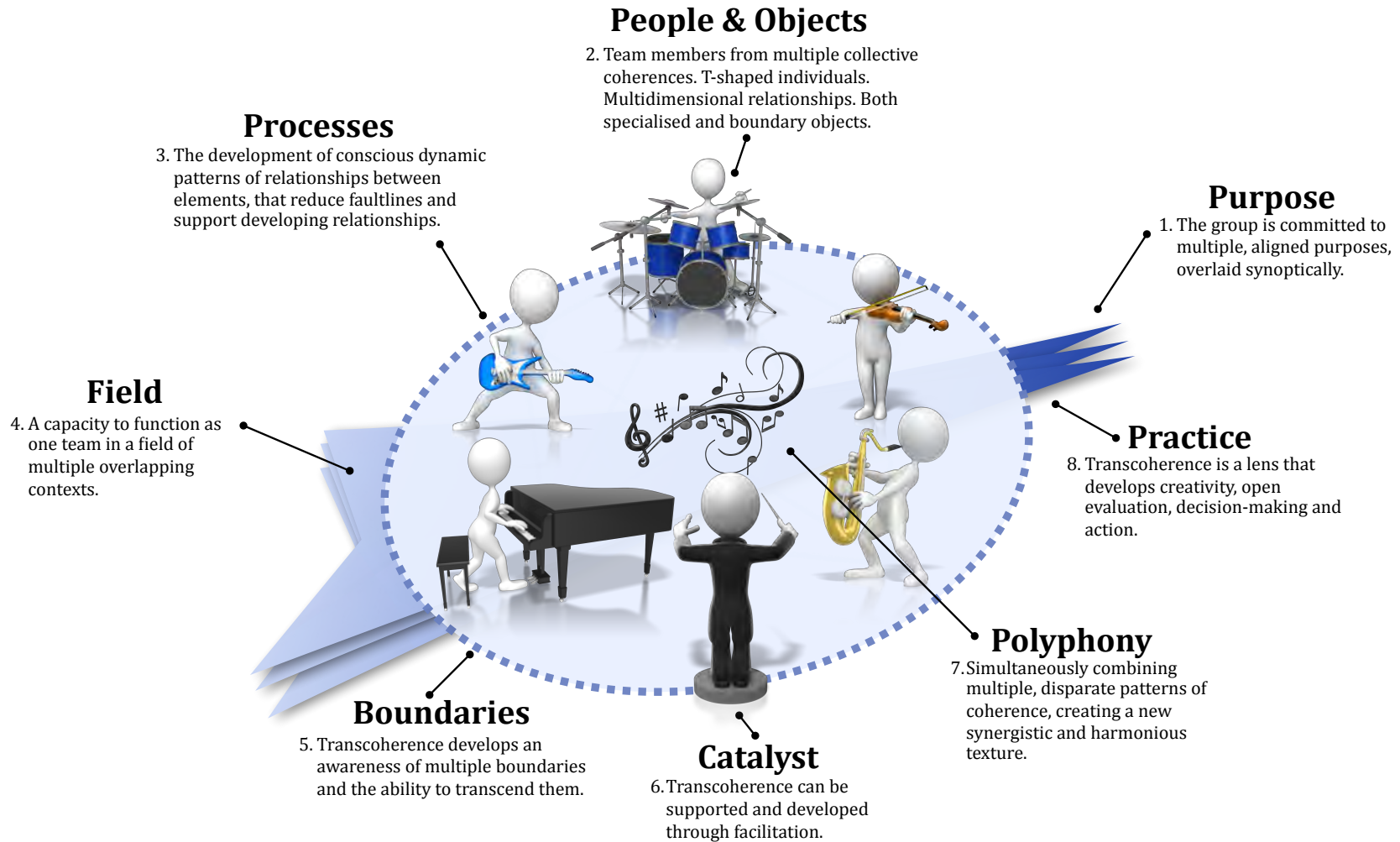
# Collective Coherence

A bounded homogeneous group  
having the following elements



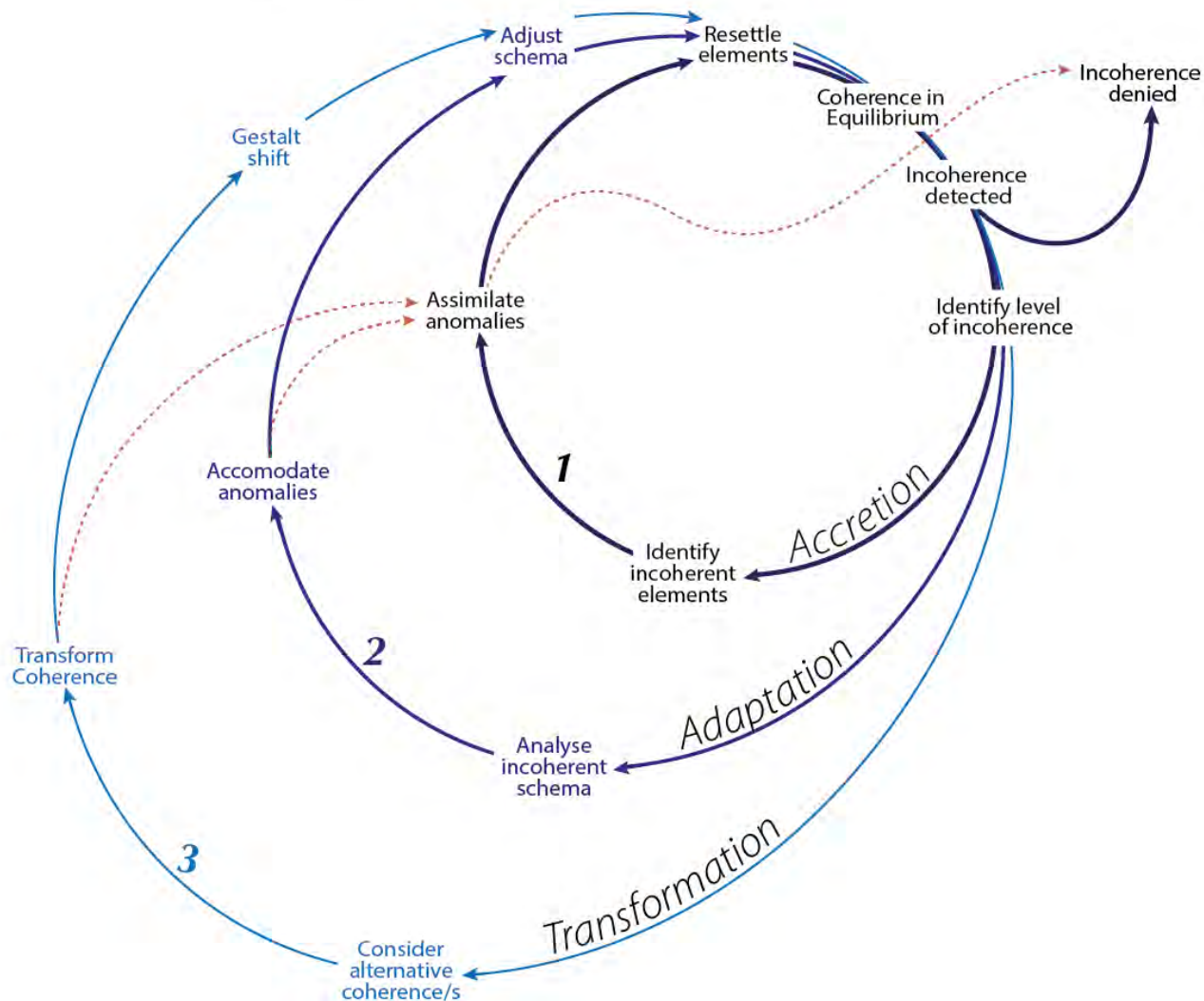
# Transcoherence

An individual's **ability** to consciously straddle worlds  
A group's **capacity** to reduce faultlines and develop synergies





# Triple Loop Learning in Response to Incoherence





## Appendix 2: Personality ‘Type’ vs ‘Trait’

The concept of ‘personality type’ is highly contested, and it has a very similar but hostile twin, the concept of ‘personality trait’. Although I chose to use the theory and instruments of ‘personality type’ throughout the project and in this thesis, a legitimate alternative would have been to use the theory and instruments of ‘personality traits’. I am accredited and experienced in both<sup>1</sup> and, since traits are the more accepted of the two by the dominate psychology paradigm (Loyd, 2012, p. 24), it could be argued that I should favour trait over type.

Although the core elements of both are almost identical, the two systems operate in their own non-overlapping, coherent worlds. To choose one is to choose the whole world that comes with it. Of those two worlds, I considered the ‘type’ world to be more accessible, relevant and useful, and that it made more sense in the context. Therefore, a brief overview of both concepts and their related literature is necessary to lay out a justification for my choice.

Both concepts are subsets of ‘personality’, a term which covers a broad collection of differing and sometimes contradictory philosophical and psychological theories (Boyle, Matthews, & Saklofske, 2008; Ewen, 2010; Vignoles, Schwartz, & Luyckx, 2011), with a long and contentious history (Barenbaum & Winter, 2008). For now it suffices to draw on two sources that provide definitions that attempt to be inclusive of the many different schools of thought.

... ‘personality’ is most commonly defined as the sum of all characteristics that reflect relatively *enduring patterns* of emotion, cognition, motivation and behaviour in which one individual differs from others within a certain reference population (e.g. age group or culture). Thus, a *coherent model* of personality must contain all characteristics (or dimensions of characteristics) that are essential to describe individual differences in complex psychological functioning (i.e. feeling, thinking, striving and behaving). [emphasis added] (Kandler, Zimmermann, & McAdams, 2014, p. 231)

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<sup>1</sup> Accreditation for both require one week intensive training and examination.

- Personality Type - MBTI: (2008)
- Personality Trait & Ability Assessment SHL Training Academy (2009)

My official experience starts from these dates but I have supported other accredited practitioners since the late 1990s.

## A theory of personality organises ...

findings to tell a *coherent story*, to bring *into focus* those issues and phenomena that can and should be explained. As Mayer (1998) argued, personality may be viewed as a system, and an adequate theory of personality must provide a definition of the system, a specification of its components, a model of their organization and interaction, and an account of the system's development. (R. R. McCrae & P. T. Costa, 2008)

The theories of personality type and trait both conform to these definitions. They are similar in context, history, boundaries and specific elements, but they differ in underlying theory, structure, patterns of arrangement, and emphasis of the elements.

First, their general similarities. Both have large bodies of knowledge that provide a foundation for each theory. They both have a long history with decades of research linked to theory and related justifications, claiming validity and reliability for the instruments used. Each has a collection of experts who share a common “paradigm ... a set of common core beliefs supported by empirical evidence” (Boyle et al., 2008, p. 1). Both have their own peer-reviewed journals and academic supporters, and both are used in organisations for many of the same reasons. A number of core principles of ‘trait’ theory are also generally applicable to ‘type’, see Boyle et al. (2008, p. 4) and Loyd (2012, p. 28).

**Table 1 Similarities between personality type and trait**

<b>Principle</b>	<b>Description</b>	<b>Type</b>	<b>Trait</b>
Stable qualitative dimensions	May be assessed as numeric scales	✓	✓
Genetic basis	DNA is linked to phenotypic personality	✓	✓
Generality of trait expression	Expressed in multiple situations and contexts	✓	✓
Interactionism	Situational factors moderate expression	✓	✓
Nomothetic	Measures that are observed on a relatively large sample and have a more general outlook	✓	✓
Analysable	Personality includes discrete identifiable elements	✓	✓
Utilise self reflective instruments	Myers-Briggs Type Indicator (MBTI), Neo-Five Factor Inventory (NEO_FFI)	✓	✓

## ***Appendix 2.1 Personality type***

Having outlined general similarities, I now offer a brief description of both personality type and trait. I used the Myers-Briggs Type Indicator® (MBTI) with the Core Team and with a number of others involved in the project. The MBTI is a self-reporting, questionnaire-based, psychological instrument that is intended “to make the theory of psychological types described by C. G. Jung understandable and useful in people's lives” (The Myers-Briggs Foundation, 2015) .

“The essence of the theory is that much seemingly random variation in behavior is actually quite orderly and consistent, being due to basic differences in the ways individuals prefer to use their perception and judgment” (Briggs-Myers, McCaulley, Quenk, & Hammer, 2003, p. 3).

This coherence is expressed in an individual's preferences in relation to a series of four dichotomies (McGuiness, 2004, p. 3).

**Favorite world:** Do you prefer to focus on the outer world or on your own inner world? This is called Extraversion (E) or Introversion (I).

**Information:** Do you prefer to focus on the basic information you take in or do you prefer to interpret and add meaning? This is called Sensing (S) or Intuition (N).

**Decisions:** When making decisions, do you prefer to first look at logic and consistency or first look at the people and special circumstances? This is called Thinking (T) or Feeling (F).

**Structure:** In dealing with the outside world, do you prefer to get things decided or do you prefer to stay open to new information and options? This is called Judging (J) or Perceiving (P). (Foundation, 2015)

These combinations of preferences sort all individuals in the world into one of sixteen categories, which are called ‘psychological types’ (Loyd, 2012, p. 23). These types are often shown in a ‘type table’ (Foundation, 2015) as in Figure 1. Each of the sixteen types are ‘encapsulated’ in summaries of descriptive prose (Loyd, 2012, p. 23). An example is shown in Appendix 3.

**Figure 1. MBTI personality type table**

Choose Your Type			
ISTJ	ISFJ	INFJ	INTJ
ISTP	ISFP	INFP	INTP
ESTP	ESFP	ENFP	ENTP
ESTJ	ESFJ	ENFJ	ENTJ

MBTI has been used for professional and personal development, leadership, management, team building, coping with stress, conflict management, career counselling, job fit, and multicultural issues in organisations (Berens & Nardi, 1999; Killen & Murphy, 2003; McGuinness, 2004; Quenk, 2000; Renner, Menschik-Bendele, Alexandrovicz, & Deakin, 2014; VanSant, 2003; Zeisset, 2006). Its advocates claim that the theory is based on a strong foundation of research that has shown it to be both valid and reliable (Briggs-Myers et al., 2003; Renner et al., 2014, p. 2).

## ***Appendix 2.2 Personality trait***

Having defined personality type above, a standard description of personality trait is required, thus:

... a generalised neuropsychic structure (peculiar to the individual), with the capacity to render many stimuli functionally equivalent, and to initiate and guide consistent (equivalent) forms of adaptive and stylistic behaviour. That is, a trait describes the filtering of experience through the self to impose a personal structure on the world. (Boyle et al., 2008)  
p.2

Historically, there have been competing claims as to how many traits there are, with various authors selecting three, four, five, six, seven and sixteen (Loyd, 2012), but for a number of decades the dominant view has been that there are 'five robust factors' (R. McCrae & P. T. Costa, 2008, p. 159) or traits that provide a foundation for personality. This has become known as the 'Five Factor Model (FFM) of personality' (R. McCrae & P. T. Costa, 2008, p. 159). This model includes four positive traits and one negative trait, as shown in Figure 2 (Almlund, Duckworth, Heckman, & Kautz, 2011, p. 17).

**Figure 2. The Big Five Personality Traits**

Trait	Definition of Trait*
I. Openness to Experience (Intellect)	The tendency to be open to new aesthetic, cultural, or intellectual experiences.
II. Conscientiousness	The tendency to be organized, responsible, and hardworking.
III. Extraversion	An orientation of one's interests and energies toward the outer world of people and things rather than the inner world of subjective experience; characterized by positive affect and sociability.
IV. Agreeableness	The tendency to act in a cooperative, unselfish manner.
V. Neuroticism (Emotional Stability)	Neuroticism is a chronic level of emotional instability and proneness to psychological distress. Emotional stability is predictability and consistency in emotional reactions, with absence of rapid mood changes.

\* From the American Psychological Association Dictionary [2007].

When types and traits are compared, four align and are seen as equivalent by most authors (Loyd, 2012) (see Table 2).

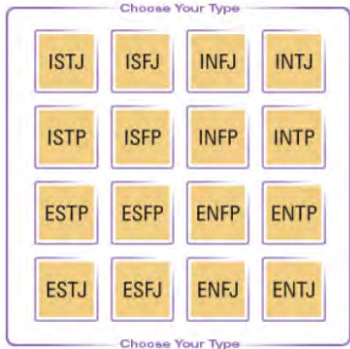

**Table 2 Types and traits (R. McCrae & P. T. Costa, 2008)**

Type: (Myers Briggs - 4 Dichotomous pairs)	Trait: (Big Five - Gradients)
Extraversion (E) or Introversion (I) [Attitudes]	Extraversion (E)
Sensing (S) or Intuition (N) [Functions]	Openness (O)
Thinking (T) or Feeling (F) [Functions]	Agreeableness (A)
Judging (J) or Perceiving (P) [Attitudes]	Conscientiousness (C)
–	Neuroticism (N)

This begs the question: with so much commonality, why are supporters so hostile to each other? While a few authors have tried to integrate the two, on the whole the relationship between them and their theoretical supporters is best described as incommensurable. There is little acknowledgement even of the existence of the other camp, and any commentary on the other is usually derogatory and dismissive.

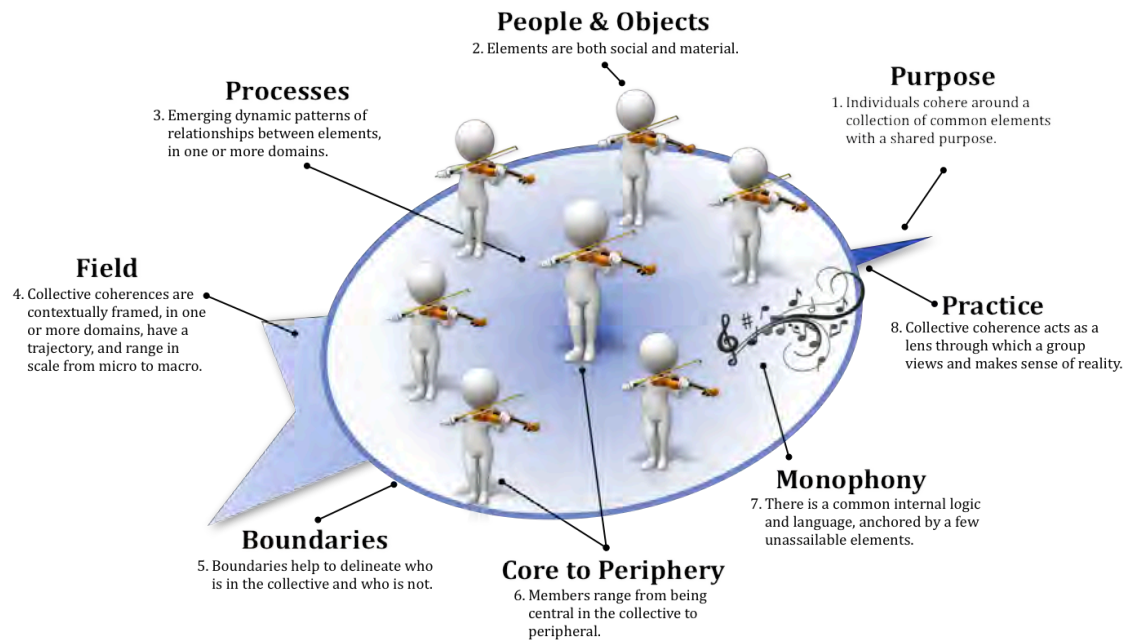
The answer lies not in the particulars but in the coherence of the whole. Table 3 notes specific points of disagreement, following which I will show how each theory functions as an incommensurable, coherent whole.

**Table 3 Differences between personality type and trait**

	Type	Trait
Epistemological emphasis	Top-down: based on Jung's theory	Bottom-up: based on empirical evidence
View of own theory	Psychological Type theory is regarded by the Type community as a coherent analysis of the human personality and one that mirrors ontological reality. (Loyd, 2012) p.29	A theory developed from empirical observation. "An empirical generalization about the covariation of personality traits."(R. R. McCrae & P. T. Costa, 2008)p.176
View of the other theory	Trait seen as theory free: Its "lack of a theoretical basis robs it of any explanatory power." (Loyd, 2012) p.29	Type seen as theory laden: "Advocates of the Five-Factor Trait approach regard Psychological Type's dependence on what they see as a conjectural and seemingly idiosyncratic theoretical basis as its major weakness." (Loyd, 2012) p.29
Relationship between characteristics	Different: All types are "valuable personality components that enrich an individual's life-experience" (Loyd, 2012) p.29 "Too much" or "too little" is irrelevant. (Quenk, 1993)p.12	Defective: Moral overtones of desirable and undesirable traits-personality deficits (Loyd, 2012) p.29 Too much or too little is often negative or diagnostic. (Quenk, 1993)p.12
Meaning of measurement	Dichotomy: An either/or preference between two polar choices. "A person characterised by one pole is qualitatively different from a person characterised by the other pole" (Quenk, 1993)p.10 Involves sorting into categories. (Quenk, 1993)p.12	Continuum: A person possesses more or less of a trait (Lawrence, 2010) Individuals differ in "how much of a trait" they have. (Quenk, 1993)p.9  Involves measuring amounts. (Quenk, 1993)p.12
Nature of profile	Type dynamics, choices between four dichotomist pairs results in sixteen whole types, (Loyd, 2012) p.29 not just a bundle of traits (Lawrence, 2010; Stengel Paris, 2014)	Scores on a collection of traits results in a bundled personality profile. (Lawrence, 2010; R. R. McCrae & P. T. Costa, 2008)
		
Distribution in population	Bimodal! skewed distributions.(Quenk, 1993)p.12	Normally distributed.(Quenk, 1993)p.12

I have described the specific similarities and differences of type and trait above. Yet by themselves these details do not explain the hostility between the two approaches. I think the answer can be found in my concept of collisions of collective coherences, in particular in Kuhn's concept of paradigm (see Chapter 5). The collisions occur over multiple elements in my model, reproduced below.

**Core Diagram B.1. A musical group as an example of collective coherence**



The purpose of each is quite different.

- **Type** is used by management consultants for personal and professional development to build on innate preferential strengths and reduce conflict in teams.
- **Trait** is used by psychologists as a medical treatment model for identifying pathologies requiring treatment.

Flowing from these different purposes are conflicting views on what are appropriate processes, objects and people for administering instruments, as I discovered whilst being accredited in both. Neither group acknowledged the validity of the other's accrediting system. None of the objects, such as instruments, were held in common. In each case it was like the other was some mythical bogeyman only mentioned to emphasise that the student was lucky to be trained by the 'right' group.

The self-perception of quality was maintained through strong self-reinforcing boundaries around their communities. This was primarily through the accreditation process but also through the disparagement of the other if they were mentioned.

Essentially, although there are many similarities, both type and trait exist in different worlds. These worlds are hostile to each other and in practice it is almost impossible to function in both at the same time. Therefore I see my choice of type as a pragmatic one, selecting the collective coherence most suited to my needs.



## Appendix 2.3 References

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# ENFP

<b>Order of Functions:</b>	Dominant	Ne
	Auxiliary	Fi
	Tertiary	Te
	Inferior	Si

**Temperament:** Idealist (NF)

## Strengths

ENFPs are spontaneous, enthusiastic, optimistic, innovative and people-centred. They are idealistic. They value relationships and intimacy, and need to know that they are making a difference in the lives of people and in the world.

The Dominant gift of ENFPs is extraverted Intuition so they need a lot of interaction and enjoy new experiences. They scan the environment for ideas and connections and seek constant change. ENFPs work in bursts of inspiration and believe anything is possible. The supporting function of ENFPs is introverted Feeling, so they base important decisions on deep personal values. They like to have lots of people around to interact with and strive to help people reach their potential.

## Potential difficulties

The less-preferred functions of the ENFP are extraverted Thinking and introverted Sensing. ENFPs are often restless and may act before thinking an idea through. They may find it difficult to assert themselves, wanting to avoid conflict and maintain harmony. Many ENFPs have difficulty with details and practical issues, and may not see reality. They often over-commit themselves and then have difficulty completing projects or meeting deadlines. They are not naturally organised so, if they lack discipline, they may not achieve what they want.

## Communication

ENFP language tends to be global, positive, spontaneous and often humorous. Their extraverted Intuition sees connections in everything and wants to brainstorm ideas with others. They will often interrupt without meaning to because the ideas come so quickly. They talk freely about themselves, but only share the deeper feelings with people they are close to. Because their Feeling function is introverted they need time to reflect before they can talk about the important issues. ENFPs want affirmation for who they are. They expect honest and open communication and often have difficulty with people who are negative or closed-minded. If you want to change their ideas or behaviour explore the possibilities with them and show them how the change will benefit people.

## Relationships

In a relationship ENFPs want intimacy and authenticity, as well as thoughtfulness and fun. Good relationships are the most important thing in the life of ENFPs so they try hard to make the relationship work. It is very important for them to be valued as they are and to be free to be themselves. ENFPs give a lot of praise and affection, and like to receive it. They constantly look for feedback, encouragement and support.

ENFPs are usually sensitive to other people's feelings and like to do things for the people they care about. They often intuit other people's feelings or needs and often put other people's needs first. Because their Feeling function is introverted it is difficult to express their deep feelings out loud, but they are very clear about what they value. They may need time to reflect before they can talk about how they feel. ENFPs avoid conflict until someone violates one of their deeper values.

## Learning

ENFPs are imaginative and highly conceptual learners. They like complexity, theories and concepts, but need to be inspired to keep interested. They usually have very good language skills and often excel in subjects where they can express their ideas in verbal or written form. They usually find essay writing easy. They work in bursts of inspiration and love learning that stimulates the imagination. ENFPs use their extraverted Intuition to explore ideas and easily make connections. They often need to discuss ideas in order to understand, so they enjoy interactive group work. Their introverted Feeling focuses their interest on people and values.

ENFPs are usually keen readers and are attracted to learning in almost any area. They are often interested in language, history, fine arts, philosophy, psychology, music, astrology, metaphysics and healing. Some also do well in Science and Mathematics. ENFPs learn easily from books, group work, and project work, and thrive if they have the opportunity to be creative. In a classroom ENFPs lose interest quickly if the work is not challenging, if there is not enough interaction, or if their relationship with the teacher is not good. They often have difficulty meeting deadlines for assignments.

## At Work

At work ENFPs want interaction, variety, flexibility and harmony. They love change and are constantly looking for new directions and new ways of doing things. They work in bursts of enthusiasm and need to be inspired to give their best. ENFPs have a lot of ideas and initiative, and like to have lots of things going on at the same time.

ENFPs need autonomy, to be free to follow their own path and to create change for people. They don't need a lot of structure or order because they have a clear structure in place on the inside. They like to work on projects that have boundaries, but can't bring closure until they are ready, so they may have difficulty with deadlines. ENFPs are nonconformists and will clash with authority if their values are violated.

## Careers

ENFPs like to work helping people achieve their potential. They often choose careers in education, counselling, church ministry, healing, psychology, consulting and human resource management. Many ENFPs choose careers with opportunity for creative expression, such as journalism, advertising and marketing, and entertainment. ENFPs can be successful in any career if they value what they are doing.

## Team Role

ENFPs are natural catalysts, creating change for others. They work well in teams where there is harmony, flexibility and support, and where they have autonomy. As team members they are flexible, energetic, creative and compassionate. Difficulties may arise if they don't meet deadlines, if they are too sensitive to criticism or if they don't deal with conflict.

## Leadership Style

As leaders ENFPs often take on a mentoring role. They give direction, guidance and autonomy, allowing individuals to do things in their own way. ENFPs usually relate well to others, are supportive and enjoy facilitating teams. They like to work collaboratively. They are usually good communicators and, at their best, can be charismatic leaders.

The strengths of ENFPs are their ability to see all sides of an issue, to motivate others to create change and to get on well with people. Difficulties may occur if they spread their energy over too many projects, if they neglect the practical issues or if they do not assert themselves when necessary.



## Stress for the ENFP

### Causes of stress

ENFPs need to have meaningful relationships and to know that they are valued and are contributing to other people's lives. They will become stressed if they experience relationship problems or if they are unable to be themselves.

Since ENFPs prefer Intuition and Feeling much of their stress will come from using the less-preferred functions, Thinking and Sensing. ENFPs tend to take on too many things and may become stressed trying to meet deadlines or deal with practical things like filing and sorting, or facts and figures. ENFPs often have difficulty being assertive with people who are critical, inflexible, negative, controlling, or not open to change. They will often avoid confronting the problem until it becomes serious. ENFPs usually have difficulty being alone for long periods, preferring a lot of interaction.

### Behaviour under stress

Introverted Sensing is usually the least developed function and the one most likely to get out of control under stress. ENFP under stress will often misplace things like car keys, or forget to do things or try to relieve the stress by going shopping. They may neglect their health and may become preoccupied with the situation replaying it over and over in their minds. If the inferior introverted Sensing takes over they may lose sight of the bigger picture and may become obsessive about insignificant facts and details. They may feel confused or overwhelmed or they may become preoccupied with their physical needs. Under serious stress they may withdraw in anger or become emotionally exhausted or depressed.

If people do not deal with stress they may engage in unhealthy psychological games to reduce the effects of stress. ENFPs who are not coping may ignore the symptoms or repress their feelings and delude themselves into thinking they are coping. The unconscious reason for this behaviour is to hide their feelings from others and themselves to avoid facing the issue. The long term effect of this behaviour is that it is difficult for them to have a really meaningful and honest relationship.

### How to reduce stress

To reduce stress ENFPs will often engage in some kind of physical activity such as cleaning out cupboards. They often seek the company of other people to talk about the problem. Some ENFPs find it helpful to spend some quiet time relaxing or meditating. To be healthy and manage their stress it is essential that ENFPs honour their basic need for meaning and appreciation. They need to re-focus on the big picture and where they are making a difference in the world.

### Leisure and Recreation

ENFPs enjoy a wide variety of leisure activities. They usually prefer activities where they can interact with people. And they enjoy learning something that will help people or will help them understand people. Their interests may include things like art, music, singing, drama, surfing, astrology, metaphysics, travel, healing, parties, dinner with friends, weekend workshops or sport. They often feel a strong connection with the ocean. Some ENFPs have an interest in a very specific area such as the Russian Royal Family, World War II Aviation, or British dance music of the 1930s. They will usually only share this with someone who shows an interest.

ENFP reading will focus on the imagination and possibilities for people and humanity. This may include classic romance novels like *Pride and Prejudice*, history, fantasy, spirituality, healing, travel, self-help books and new age topics. ENFPs don't necessarily read a book from beginning to end, but will often read the sections that interest them first.

## ENFP Development

### Childhood (6 - 12 years)

ENFP children are enthusiastic, imaginative, sensitive and caring children who seek constant interaction. The Dominant function, extraverted Intuition, develops during childhood so they spend a lot of time with others in activities that engage the imagination. They particularly enjoy activities that are new and creative. ENFP children can find an endless variety of creative things to do, such as art, music, dance, drama and reading stories about people or magical places, dressing up, role playing and daydreaming about the future. Many ENFP children will sing or perform in front of their friends or on stage. They usually make friends easily and dislike conflict amongst their friends or family.

Although ENFPs usually enjoy reading at this age they are often very busy and may not spend much time reading. ENFPs usually have difficulty paying attention to practical tasks and are easily bored with routine or silence. They may engage in sport or practical games, but will often find themselves daydreaming in the midst of it. They enjoy being creative but need constant interaction with others.

### Adolescence (13 - 20 years)

During adolescence the ENFP will spend time reflecting and considering the things they value, as they develop their introverted Feeling. They will spend time reflecting on how they could contribute to making the world a better place. They will often read books on psychology, self-help or spirituality. They will make their decisions using personal values, but others may not understand the depth of their inner values. At this time ENFPs may appear shy and may find it difficult to assert themselves. What others will observe is that they are honest and sensitive to the pain of others. ENFPs need the freedom to be themselves and will resist control, and may rebel. They respond positively to guidance from adults who understand them and encourage them to be themselves. ENFPs have a good social life and usually do well at school.

### Early Adulthood (20 - 35 years)

During this period the Third function, extraverted Thinking, emerges. The fun-loving personality of the ENFP continues throughout adulthood but, as the Thinking emerges, the ENFP will become more assertive, more logical in making decisions and less concerned about offending others. They may even appear aggressive as they begin to take charge of their own lives and feel a greater sense of freedom to be themselves. Some ENFPs at this time will look for new challenges in work or in the academic field. They may find themselves setting up business ventures or beginning study in psychology, business or management. They will be more confident in expressing their opinion and in making decisions.

### Midlife (35 - 55 years)

During this period the Fourth function, introverted Sensing, develops. The outgoing, idealistic personality of the ENFP will continue throughout adulthood, but now their attention turns to the inner world of reality, facts, details and sensory experience. They will seek more quiet time and will focus more on their health issues and on practical activities. Many ENFPs at this time will become involved in activities such as art, craft, massage, meditation, natural healing, gardening, housework, sport or dancing. Some ENFPs become interested in writing to share what they have learned about life with others. Some become advocates for disadvantaged people. ENFPs at midlife will be more comfortable living with reality and will often find they enjoy their own company.



# 'One Team'

## An action research study supporting collaboration across boundaries of organisational culture

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# - Invitation -

As someone associated with the A2J2 project, you are invited to participate in research related to the project. Participation is completely **voluntary** and you may, without any penalty, decline to take part or withdraw from the research at any time without providing an explanation.

This invitation provides an overview of the research and there are also information sheets on the specific research activities and a consent form to sign if you choose to accept this invitation.

### **Outline of the Research:**

The One Team study will explore the **process of collaboration** within multidisciplinary teams and how it can be improved. The research will be a form of 'action research'. For those not familiar with this type of research, it involves a number of cycles or phases of research and action. Those involved in this research will be asked to critically reflect on specific work collaboration processes, exploring ways of improving them. We will then trial and evaluate changes in these processes.

This means participants will be engaged in a collaborative manner that will include the co-design of all research activities.

### **Benefits for participants**

The proposed action research methodology means that participants will be engaged in activities that will develop their professional skills as well as support the goals of the project. Each phase will produce outcomes and outputs that can be utilised by those involved in the research. Benefits for participants include

- Opportunity for professional reflection on multidisciplinary collaborations
- Improved understanding of collaborative team dynamics
- Professional development for improving the effectiveness of collaborative activities

### **Period of Research: February 2013 – December 2013**

We expect between 20-40 people will be involved in the research and the nature of this involvement will be explained in the information sheets.

**Introducing The Researcher:** My name is Craig Ashhurst and I am a post graduate student from the Fenner School of Environment and Society at the Australian National University (ANU). This research is being conducted toward a Doctor of Philosophy degree. I have been a management consultant for over twenty years, working extensively with senior members of the federal public service. This work has often involved helping multidisciplinary teams to work collaboratively.

## **Questions and Concerns:**

The collaborative nature of this research means that participants will be involved throughout the research process and are welcome to ask questions at any time. If you have any further questions about the research please contact either myself or my primary supervisor at the addresses below:

### **Craig Ashhurst**

Fenner School of Environment and Society  
College of Medicine, Biology and Environment  
The Australian National University  
Telephone: 0407-062701  
Email: [craig.ashhurst@anu.edu.au](mailto:craig.ashhurst@anu.edu.au)

### **Dr Robert Dyball**

Lecturer, Fenner School of Environment and Society  
College of Medicine, Biology and Environment  
The Australian National University  
Telephone: +61 2 6125 3704  
Email: [rob.dyball@anu.edu.au](mailto:rob.dyball@anu.edu.au)

The ethical aspects of this research have been approved by the ANU Human Research Ethics Committee. If you have any concerns or complaints about how this research has been conducted, please contact:

### **Ethics Manager**

The ANU Human Research Ethics Committee  
The Australian National University  
Telephone: 6125 3427  
Email: [Human.Ethics.Officer@anu.edu.au](mailto:Human.Ethics.Officer@anu.edu.au)

# 'One Team'

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## – Information Sheet – Interviews

As a participant in the One Team research you will be asked to respond to questions in an informal interview of about one hour in length, at a time and place convenient to you. The interview will be captured by an audio recorder and a transcript made for analysis. Your identity will be kept confidential and your details will not appear on the transcript.

The types of questions will have been designed collaboratively beforehand by all those participating in the research but they may include questions such as the following:

### **Demographic questions:**

- Standard questions of age, gender, educational background and work level
- Questions regarding work experience, particularly of multidisciplinary teams

### **Participant perspectives related to the A2J2 project problem and goals:**

- How would you define the problem that the A2J2 project is addressing?
- What do you see as the goal/s of the A2J2 project?

### **Participant perspectives related to the project collaboration:**

- What has been your previous experience of multidisciplinary collaboration?
- How does this project compare to your previous experience?
- What do you think are the most important factors for successful collaboration?
- What do you think obstructs collaboration?

Participation is completely **voluntary** and you may, without any penalty, decline to take part or withdraw from the research at any time without providing an explanation, or refuse to answer any question. If you do withdraw, I will destroy all records I have made of the information you have given me. Participation or refusal to participate will not impair any existing relationships between the participants and any other institutions or people involved.

**Use of Information and Confidentiality:**

All the information gathered during this research will be summarised and reported back to all participants for comment, analysis and suggestions on what to do in light of the findings. This will occur a number of times throughout the study. The findings will be further analysed and presented in a summary form in a doctoral thesis. In addition, analysis of the findings may also be used in journal publications and in possible future research. No individual participant will be identified in the presentation of any findings.

I will not use real names in notes, analysis or publications. I will audio-record interviews and discussions, and take photographs only with your consent. All physical data collected will be digitised and will be stored in a password-protected laptop. All physical data will be placed in a lockable filing cabinet in a secure office. Consent forms will be filed separately from observation notes and transcripts. Data will not be stored in non-secured rooms at the ANU or shared with anyone else. All data will be stored for a minimum of five years after publication, as per the requirements of the Australian National University.

**Questions and Concerns:**

The collaborative nature of this research means that participants will be involved throughout the research process and are welcome to ask questions at any time. If you have any further questions about the research please contact either myself or my primary supervisor at the addresses below:

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# 'One Team'

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across boundaries of organisational culture

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## - Research Consent Form - Interviews

Please tick the boxes you consent to and fill in the details at the bottom of the form. Thank You.

- I have read and understood the Information Sheet describing the 'One Team' research study.
- I agree to participate as an interviewee in the study.
- I agree to an audio recording being made during interviews.
- I consent to publication of the results of the study on the understanding that I am not individually identified in any report of the project, and that confidentiality is preserved.
- I understand that at any time I may withdraw from the project, as well as withdraw any information that I have provided.
- I note that this study has been the subject of an Ethics Application in accordance with the protocols of the Australian National University in Canberra, Australia.

Name: (please print)

Signature:

Date:

Email address:

# 'One Team'

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## – Information Sheet – Workshops

As a participant in the One Team research you will be asked to be involved in a number of workshops of various size, that will be discussing collaboration between team members. These workshops will be a mixture of dialogue around focus questions, professional development and collaborative design. The types of questions asked will have been designed collaboratively by those participating in the research. You will be asked to contribute ideas and critically reflect on issues relating to collaboration.

Information from the workshops will be collected through documentation, photographs and audio recordings. A transcript of recordings will be made for analysis. Your identity will be kept confidential and your details will not appear on the transcript. The output from workshops will be summarised and used to design further improvements to the collaborative process.

Participation is completely **voluntary** and you may, without any penalty, decline to take part or withdraw from the research at any time without providing an explanation, or refuse to answer any question. If you do withdraw, I will destroy all records I have made of the information you have given me. Participation or refusal to participate will not impair any existing relationships between the participants and any other institutions or people involved.

### **Use of Information and Confidentiality:**

The workshops will be run with the values of the public service in mind. So everyone will be asked to act in their usual professional manner. All the information gathered during this research will be summarised and reported back to all participants for comment, analysis and suggestions on what to do in light of the findings. This will occur a number of times throughout the study. The findings will be further analysed and presented in a summary form in a doctoral thesis. In addition, analysis of the findings may also be used in journal publications and in possible future research. No individual participant will be identified in the presentation of any findings.

I will not use real names in notes, analysis or publications. Identities will be obscured in any reporting or publication. It may be possible for participants involved in particular recorded discussions to recognise comments from those involved in those activities but care will be taken to obscure identification from others. I will audio-record interviews and discussions, and take photographs only with your consent. All physical data collected will be digitised and will be stored in a password-protected laptop. All physical data will be placed in a lockable filing cabinet in a secure office. Consent forms will be filed separately from observation notes and transcripts. Data will not be stored in non-secured rooms at the ANU or shared with anyone else. All data will be stored for a minimum of five years after publication, as per the requirements of the Australian National University.

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## - Research Consent Form - Workshops

Please tick the boxes you consent to and fill in the details at the bottom of the form. Thank You.

- I have read and understood the Information Sheet describing the 'One Team' research study.
- I agree to participate as a member of the proposed research related workshops.
- I agree to an audio recording being made during the workshops.
- I agree to photographs being taken during the workshops.
- I agree to photographs of my workshop artefacts being used in publications.
- I agree to photographs of me being used in publications.
- I consent to publication of the results of the study on the understanding that I am not individually identified in any report of the project, and that confidentiality is preserved.
- I understand that at any time I may withdraw from the study, as well as withdraw any information that I have provided.
- I note that this study has been the subject of an Ethics Application in accordance with the protocols of the Australian National University in Canberra, Australia.

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