

This is an Open Access document downloaded from ORCA, Cardiff University's institutional repository: <https://orca.cardiff.ac.uk/id/eprint/129332/>

This is the author's version of a work that was submitted to / accepted for publication.

Citation for final published version:

Dwyer, Graham, Hardy, Cynthia and Maguire, Steve 2021. Post-Inquiry sensemaking: the case of the 'Black Saturday' bushfires. *Organization Studies* 42 (4) , pp. 637-661. 10.1177/0170840619896271

Publishers page: <http://dx.doi.org/10.1177/0170840619896271>

Please note:

Changes made as a result of publishing processes such as copy-editing, formatting and page numbers may not be reflected in this version. For the definitive version of this publication, please refer to the published source. You are advised to consult the publisher's version if you wish to cite this paper.

This version is being made available in accordance with publisher policies. See <http://orca.cf.ac.uk/policies.html> for usage policies. Copyright and moral rights for publications made available in ORCA are retained by the copyright holders.



**Post-Inquiry Sensemaking:
The Case of the ‘Black Saturday’ Bushfires***

Graham Dwyer
Centre for Social Impact Swinburne
Swinburne University
grahamdwyer@swin.edu.au
+61 3 9214 3475

Cynthia Hardy
Department of Management & Marketing
The University of Melbourne
chardy@unimelb.edu.au
+61 3 8344 3719

Steve Maguire
Strategy, Innovation & Entrepreneurship
The University of Sydney Business School
+61 2 8627 5520

Forthcoming in *Organization Studies*
<https://journals.sagepub.com/doi/10.1177/0170840619896271>

* The authors wish to acknowledge the financial support of the Faculty of Business & Economics and the Department of Management and Marketing, University of Melbourne. This research is supported by an Australian Government Research Training Program (RTP) Scholarship.

Abstract

We examine post-inquiry sensemaking by emergency management practitioners following an inquiry into the most damaging bushfire disaster in Australia's history. We theorize a model of post-inquiry sensemaking with four distinct but overlapping phases during which sensemaking becomes more prospective over time. In addition to providing important insights into what has, hitherto, been a neglected arena for sensemaking studies i.e., post-inquiry sensemaking, we also contribute to the understanding of sensemaking more generally. Specifically, we show the complex nature of the relationship between sensemaking and equivocality, explain how multiple frames enhance sensemaking, and explore temporality in sensemaking over time.

Research on sensemaking under conditions of equivocality is replete with studies of particular incidents – accidents, crises and disasters – where individuals struggle to make sense of rapidly changing and dangerous conditions (e.g., Weick, 1993; Cornelissen, Mantere & Vaara, 2014). There is also a considerable body of work on how public inquiries make retrospective sense of previous incidents (e.g., Gephart, 1993; Brown, 2004). One important omission in the literature, however, is *post-inquiry sensemaking*, which covers the period after the inquiry has completed its work, when its recommendations are transferred to the organization for implementation. The lack of research is problematic because, first, while post-inquiry sensemaking is influenced by the incident and inquiry that precede it, it occurs under a completely different set of logistical and organizational circumstances. Accordingly, the existing literature offers little insight into the nature of sensemaking in the post-inquiry setting. Second, the post-inquiry setting comprises complex temporal dynamics – it arises following an incident and inquiry, is shaped by actors’ past experiences of both and, yet, it also revolves around trying to prevent subsequent incidents in the future. As such, it is a promising site to explore the relationship between retrospective and prospective sensemaking (Maitlis & Christianson, 2014) and understandings of temporality (Introna, 2019). A third reason why the neglect of post-inquiry sensemaking is problematic is practical – it means that organizations lack insight into how inquiry recommendations, designed to prevent negative events from happening, can be successfully implemented.

Motivated by these theoretical and practical concerns, we investigate sensemaking by practitioners in emergency management organizations in the state of Victoria, Australia following an inquiry into a major bushfire disaster known as ‘Black Saturday.’ This incident caused the loss of 173 lives, 2000 homes and 430,000 hectares of land and was immediately followed by a Royal Commission to investigate what had gone wrong on Black Saturday. This inquiry made 67 recommendations to be implemented by the relevant organizations in a

bid to prevent such destruction happening again. By conducting a qualitative, interpretive study based on interviews with practitioners working in organizations responsible for implementing these recommendations, we show the importance and nature of sensemaking *following* the release of the inquiry's report.

Our findings indicate that equivocality does trigger sensemaking in the post-inquiry setting. However, sensemaking does not necessarily reduce this equivocality and can, in fact, increase it. We theorize a model of post-inquiry sensemaking that incorporates four different phases over time, during which equivocality fluctuates as multiple frames are used to recognize different cues embedded in the past, present and future. Our study shows how the use of multiple frames enables practitioners to recognize, interpret and act on a range of cues, making sensemaking more resilient. It also provides a better understanding of the relationship between retrospective and prospective sensemaking, showing how the latter supplements and gradually replaces the former over time in the post-inquiry setting. Finally, our study helps to illuminate the complex, fluid temporal dynamics associated with sensemaking where both 'past' and 'future' are part of the 'present.'

Post-Inquiry Sensemaking

In this section, we introduce key sensemaking concepts and explain the links between them. We then turn to post-inquiry sensemaking and explain why the lack of research on this phenomenon is problematic.

Sensemaking

Sensemaking is an ongoing social process whereby individuals create and share plausible meanings and understandings (Weick, 1993), enabling them to enact a sensible or meaningful environment. To do so, they engage in "conversational and social practices" (Gephart, 1993: 1469), such as questioning, framing and storytelling (Brown & Jones, 2000). Most studies of sensemaking focus on situations where it has been triggered by equivocality

i.e., some form of confusion or ambiguity that gives rise to multiple interpretations (cf. Weick, 1990), which interrupts actors' ongoing activities and forces them "to make sense of the interrupted activity in order to be able to resume it" (Sandberg & Tsoukas, 2015: S12). Equivocality thus creates some form of 'disruptive ambiguity' that breaches expectations of continuity in organized action, leading actors to engage in sensemaking "to construct a plausible sense of what is happening" (Weick, Sutcliffe & Obstfeld, 2005: 414) and enact "a more ordered environment" (Maitlis & Christianson, 2014: 67). In other words, equivocality often triggers sensemaking by disrupting 'sensible' environments; sensemaking is then undertaken to restore sense and meaning and, in doing so, it is assumed to reduce or remove the equivocality that gave rise to it.

When individuals engage in sensemaking as a response to equivocality, they recognize and bracket cues in the environment (Barton & Sutcliff, 2009; Whiteman & Cooper, 2011). Sensemaking cues are anomalies of some kind that lead individuals to start scanning, noticing and framing various phenomena. In this way, they form an initial sense (or nonsense) of events, which is subsequently developed into a "more complete and narratively organized sense" through further interpretation (Sandberg & Tsoukas, 2015: S14). Cues lead individuals to question themselves and others as they try to "bring order into ambiguous realities [that are] open to multiple interpretations" (Stigliani & Ravasi, 2012: 1233). Fragments of texts, interactions or talk among individuals, specific events and experiences, and material objects can all act as cues (Dwyer & Hardy, 2016).

In order to recognize and interpret cues, individuals draw on particular frames – interpretive schemes based on experience, training, culture, and identity. Frames are "past moments of socialization and cues tend to be present moments of experience. If a person can construct a relation between these two moments, meaning is created" (Weick, 1995: 111). Frames help to single out particular aspects of current activities for closer attention, but they

can also “leave out much else that may be cues in other frames” (Colville, Pye & Carter, 2013: 1205). Relying on a single frame may create blind spots that result in cues being misinterpreted, sometimes with tragic consequences (Cornelissen et al., 2014). Using multiple frames may allow individuals to see cues that they would otherwise miss, but they can give rise to conflicting interpretations that prevent sense from being made or shared.

Most research highlights retrospective sensemaking, which seeks to make sense of events in the past (Maitlis & Christianson, 2014; Brown et al., 2015). Individuals “enact their reality, which they, then, retrospectively seek to make sense of and, on the basis of the provisional sense made, individuals act again, retrospectively making sense of their new action, and so on” (Sandberg & Tsoukas, 2015: S9). Some researchers argue that retrospective sensemaking hinders more profound understandings by relying on habitual interpretations and filtering cues through out-of-date frames (Guetta & Vandembemt, 2016). Accordingly, interest has turned to prospective sensemaking, which occurs as individuals “construct intersubjective meanings, images, and schemes in conversation where these meanings and interpretations create or project images of future objects and phenomena” (Gephart, Topol & Zhang, 2010: 285; also see Gioia & Mehra, 1996; Wiebe, 2010; Stigliani & Ravasi, 2012; Mackay & Parks, 2012; Konlechner et al., 2018). Most commentators agree that, while prospective sensemaking is undoubtedly important in organizations, it remains under-researched and under-theorized (Maitlis & Christianson, 2014; Brown et al., 2015; Sandberg & Tsoukas, 2015).

Post-Inquiry Sensemaking

The post-inquiry setting incorporates the period following an inquiry into a negative incident of some kind, when recommendations are transferred to the organization for implementation. While there is a significant amount of research on both incidents and inquiries, there is virtually none on the post inquiry setting – none of three recent review

articles mention it (Maitlis & Christianson, 2014; Brown et al., 2015; Sandberg & Tsoukas, 2015). In this section, we first present an overview of the research on sensemaking in incidents and inquiries and then explain why post-inquiry sensemaking differs.

A considerable amount of the research on sensemaking has examined particular incidents, including crises and disaster such as Mann Gulch, Bhopal and Challenger (Weick, 1993, Vaughan, 1990) or accidents, such as the shooting of a Brazilian man by London police who mistakenly thought he was a terrorist (Cornelissen et al., 2014; Colville et al., 2013). Equivocality is high during such incidents because conditions are changing rapidly, resulting in discrepant cues that are difficult to recognize and interpret. Accordingly, such incidents can be “chronically hard to make sense of” (Maitlis & Christianson, 2014: 92) because they “are suffused with dynamic complexity” (Colville et al., 2013: 1201) and “continuous discontinuous change” (Colville, Brown & Pye, 2012: 8). In such situations, effective sensemaking may be crucial to avoid or manage the negative consequences, but difficult to enact (e.g., Weick, 1993).

There is also a rich body of research on the inquiries that conduct ‘second order’ sensemaking of the original incident (Sandberg & Tsoukas, 2015), ostensibly to resolve any residual equivocality in relation to what happened and why (Brown, 2004). Inquiries may take the form of public hearings commissioned by governments or other authorities to investigate what happened in the case of high profile events, such as a pipeline explosion (Gephart, 1993), the British ‘arms to Iraq’ affair (Brown & Jones, 2000), and the collapse of the Barings Bank (Brown, 2005). They also take the form of internal investigations, such as safety and/or accident reviews mandated by regulatory or organizational policy (Ron et al., 2006; Catino & Patriotta, 2013). Typically, the members of the inquiry craft an authoritative account of the incident (Brown, 2004), which resolves equivocality by providing a plausible explanation of what happened, thereby rebuilding public confidence and restoring legitimacy

(Gephart, 1993; Boudes & Laroche, 2009).

We argue that sensemaking does not end with the inquiry because of the equivocality that is likely to be generated by its report and recommendations. Inquiries may carry the weight of authority (Brown, 2004) and be intended to reduce equivocality (Sandberg & Tsoukas, 2015), but differences of opinion and diverse readings of their analysis and recommendations are common. Even if a broad consensus surrounds an inquiry's recommendations, the implications for specific organizational practices are often complex, confusing, and conflictual. In other words, inquiries and their reports are likely to *create* equivocality and, in turn, generate post-inquiry sensemaking.

Sensemaking in the post-inquiry setting is, however, likely to take a different form than during the incident and inquiry. In the original incident, sensemaking is undertaken in a highly compressed period of time and under conditions of extreme danger (e.g., Colville et al., 2013), whereas post-inquiry sensemaking tends to have a much longer timeframe and not involve physical danger. In the inquiry, sensemaking is undertaken by experts engaged in a deliberative process and operating at a distance from the organizations involved (Sandberg & Tsoukas, 2015), whereas post-inquiry sensemaking is undertaken by employees and managers responsible for implementing and enacting the necessary changes in the organization. Moreover, sensemaking during incidents and inquiries is argued to be retrospective (Weick, 1993; Gephart, 1993). Post-inquiry sensemaking, on the other hand, is characterized by complex temporal dynamics. These dynamics encompass the past because post-inquiry sensemaking is influenced by the earlier sensemaking that took place during the incident and inquiry: the recommendations to be implemented are directly informed by the sense that the inquiry made of the earlier incident; and some organizational members responsible for implementation will have also experienced the original incident and/or participated in the inquiry. These dynamics also encompass the future: post-inquiry

sensemaking is concerned with the implementation of recommendations that anticipate subsequent incidents occurring in the future and seek to prevent and/or mitigate them.

The distinctive nature of the post-inquiry setting means that the sensemaking literature on incidents and inquiries is unlikely to offer much insight. Our aim in this study, therefore, is to address this shortcoming by exploring post-inquiry sensemaking: to investigate whether equivocality in the post-inquiry setting triggers sensemaking and, in the event that it does, examine the form that it takes, including the role played by cues, frames and temporality.

Methods

Research Setting

Our study is set in the period following an inquiry into the ‘Black Saturday’ fires, which occurred in Victoria, Australia on 7th February 2009. This incident was described as “one of Australia’s worst natural disasters” (VBRC, 2010, Final Report: 1). It led to the loss of 173 lives, 2000 homes and 430,000 hectares of land, costing an estimated \$4 billion. Shortly after the fires, the Premier of Victoria established the Victorian Bushfires Royal Commission (VBRC) to investigate and make recommendations for dealing with future bushfires. In Australia, royal commissions are a form of public inquiry appointed by federal or state governments to investigate issues deemed to be particularly important or sensitive (Prasser, 2012). The VBRC was headed by three commissioners, assisted by lawyers, who could use statutory powers to solicit testimony under oath from witnesses. It held 26 community consultations, received nearly 1,700 public submissions, conducted 155 days of hearings, heard from 400 witnesses, and received over 100 submissions (see VBRC, 2010, Volume III).

The Commission’s final report was released in July 2010. It ran to four volumes comprising thousands of pages and made 67 recommendations for change in how emergency

management organizations handle bushfires. These recommendations were accepted by the Victorian Government, which established an Implementation Monitor to report on progress. It noted that the majority of over 300 actions established to meet the requirements of the 67 recommendations had been implemented in a timely fashion by 2014 (Implementation Monitor, 2014).

In order to get an in-depth understanding of sensemaking, we decided to focus on *Recommendation One*, which recommended that the longstanding Bushfire Safety Policy be revised. The previous policy – known as ‘Stay or Go’ – encouraged people to make an early decision about whether to stay and defend their property during a bushfire or whether to evacuate before the fire arrived. It advised householders who decided to stay to have strategies in place to maximize their chances of survival. Conversely, if individuals decided to evacuate, it recommended that they leave at least 48 hours prior to the predicted arrival of the fire. The Commission’s report argued that the Black Saturday fires had exposed weaknesses in the original ‘Stay or Go’ policy, and recommended a new policy to:

- *enhance the role of warnings – including providing for timely and informative advice about the predicted passage of a fire and the actions to be taken by people in areas potentially in its path*
- *emphasize that all fires are different in ways that require an awareness of fire conditions, local circumstances and personal capacity*
- *recognize that the heightened risk on the worst days demands a different response [...]*
- *improve advice on the nature of fire and house defendability, taking account of broader landscape risks* (VBRC, Final Report: 23).

Our selection of this recommendation is an example of ‘purposeful’ sampling (Patton, 2015). Recommendation One involved significant changes in emergency management (see Table 1) and, as such, seemed likely to generate equivocality which would, in turn, lead to sensemaking. Additionally, the fact that 13 out of the 15 actions concerning Recommendation One had been successfully implemented by 2014 (Implementation Monitor, 2014) suggested that sensemaking had been successful.

– Table 1 here –

Data Collection and Analysis

In 2014, we conducted semi-structured interviews with 62 emergency management practitioners who worked for organizations that played prominent roles in the Black Saturday bushfires.¹ They included senior managers (20), middle managers (21) and functional experts (21). Senior managers had overall responsibility for coordinating fire-fighting efforts. Middle managers had regional/unit-level responsibilities and line authority over varying numbers of subordinates. Functional experts had specialist expertise e.g., information officers, planning officers, and operational fire-fighters (Table 2).

– Table 2 here –

Interviewees were asked semi-structured questions about their experience of how the Commission’s recommendations were implemented in their organizations, as well as specific questions regarding Recommendation One and its impact. Interviews lasted between 30 and 90 minutes and resulted in 65 hours of interview recordings, which were transcribed verbatim. Our analysis of the interview data was interpretive and took the form of three main types of coding: descriptive, analytical, and pattern/inferential (cf. Miles & Huberman, 1994). The aim was to move iteratively between the sensemaking literature and the data in order to elaborate inductively-based concepts from the data, provide a higher level of abstraction, and then trace relationships among them. See Figure 1 for a summary of this coding.

– Figure 1 here –

We had selected our case on the assumption that the Commission’s report would give rise to equivocality and, in turn, lead to sensemaking. We therefore conducted the first phase of analysis to ascertain whether our assumptions were correct, as well as discern the ways in which the key concepts were connected to each other (cf. Catino & Patriotta, 2013). Based on

¹ For confidentiality reasons, we do not name these organizations.

definitions of equivocality and sensemaking in the literature, we identified a list of terms to aid us in analyzing the interviews. Accordingly, we examined interview transcripts for mention of words like ‘uncertainty’, ‘complications’, ‘confusion’, ‘out of control’, ‘doubt’, ‘challenge’, ‘dilemma’ and ‘conflict’ to indicate evidence of equivocality in relation to Recommendation One. We then inferred preliminary evidence of sensemaking from terms such as ‘sense’, ‘interpret’, ‘understand’, ‘discuss’, ‘dialogue’ and ‘agree’ (Table 3). This initial analysis confirmed that the post-inquiry setting was marked by equivocality and that sensemaking had taken place.

– Table 3 here –

We then examined the interview transcripts where these terms were mentioned to elaborate the basic descriptive codes into more nuanced analytical codes. In the case of equivocality, the interviews provided evidence to suggest that interviewees’ experiences of equivocality changed over time. We therefore coded for evidence that the degree of equivocality at a particular moment in time was *high* by identifying instances when interviewees made regular mention of uncertainty, confusion and ambiguity, as well as other instances when they did not mention these terms (*low* equivocality). We also explored the interviews for evidence as to whether the degree of equivocality was changing and, if so, in what direction. We found instances where equivocality appeared to be *decreasing*, as well as instances where it seemed to be *increasing* (Table 4).

– Table 4 here –

To explore sensemaking, we looked for evidence of *cues* and *frames* based on the literature. In the case of cues, we examined transcripts for evidence that indicated interviewees had become aware of some sort of discrepancy or anomaly that they had not fully understood, and which prompted them to engage in discussions with others in order to obtain a better understanding. We found that some cues were embedded in the past

experience of the *incident* and/or the *inquiry*, including its report i.e., the practitioners whom we interviewed referred back to the original incident and/or the Commission hearings and/or their reactions to reading the final report. We also found evidence of other cues embedded in the process of *implementation* i.e., interviewees referred to discrepancies between what the recommendations required and what individuals or the larger organization were capable of. Finally, we found evidence that some cues were embedded in *imagination* i.e., interviewees noted discrepancies as they speculated what the implementation of the recommendations would mean for future bushfires (Table 5).

– Table 5 here –

In the case of sensemaking frames, we examined the interviews for evidence of interpretive schemes, based on mention of experience, training, culture and identity as interviewees reported noticing and interpreting anomalies. We identified four frames: a *professional* frame associated with the expertise, training and identity of the emergency management practitioners; a *forensic* frame connected to investigative processes associated with the Commission and the expertise, training and identity of the lawyers; an *authority* frame where individuals referred to the legal status of the Royal Commission; and an *organizational* frame where individuals talked in terms of the goals, structure, culture and identity of their organization (Table 6).

– Table 6 here –

In the third stage of analysis, we developed inductive patterns and identified relationships among categories – we noticed certain patterns among equivocality, cues and frames indicating four clusters (see Figure 1 under ‘pattern codes’). We explored whether these clusters occurred in a particular temporal sequence between 2010, when the inquiry report was released, and 2014, when we conducted our interviews. Accordingly, we re-examined instances where the activities in each cluster were described, paying particular

attention to the verb tense used by interviewees, and also cross-referencing across interviews to ascertain whether there was agreement concerning the sequencing of activities. This analysis was subjective since our data took the form of retrospective accounts (see our discussion of limitations in the conclusion). However, we gleaned sufficient evidence to indicate that the clusters occurred sequentially, although they were not completely distinct or separate.

One cluster of sensemaking activities – a series of new organizational sensemaking conversations – occurred in the immediate aftermath of the Commission’s report. We refer to this cluster as ‘Phase I Sensemaking.’ Interviewees indicated that the initial response in 2010 was to set up various meetings and committees where conversations could take place to make sense of the inquiry’s recommendations with statements like “We *started* by setting up a steering committee ...” Interviewees described another cluster of sensemaking activities as they started to develop new tools and technologies. We refer to this cluster as ‘Phase II Sensemaking’ insofar as interviewees indicated that these activities occurred as a result of the initial conversations and took some time to complete. For example, interviewees indicated that a specific new technology was developed, but then required a “massive” retraining of all staff. ‘Phase III Sensemaking’ related to a new understanding of emergency management organization. It appeared to follow from Phase II in that interviewees suggested that, in order to incorporate the new warning tools and technologies, more fundamental changes were needed. Finally, ‘Phase IV Sensemaking’ appeared to take place later still, as evidenced by interviewees talking about concerns that they still had in 2014, and with specific reference to technological and organizational changes that had already been made.

Post-inquiry Sensemaking over Time

In this section, we present our findings showing that post-inquiry sensemaking took the form of four phases (see Table 7 for a summary).

Phase I Sensemaking: Questioning

Equivocality engendered by the Royal Commission's report resulted in sensemaking insofar as emergency management practitioners from different levels, functions and organizations started to engage in a series of new conversations in a bid to understand what the recommendations meant.

We started by setting up a steering committee, which established a community fire emergency information unit that was headed up by [a senior manager]. We then had to look at all these changes that [Recommendation One] required (Incident Controller 2).

This initial sensemaking was primarily *retrospective*. Interviewee accounts referred to cues embedded in the original *incident* i.e., where things had gone wrong on Black Saturday, which they re-visited using a *professional* frame based on their knowledge and experience of bushfires.

Yes, I was [on duty on Black Saturday]. I guess visually being able to see the enormity [of what was happening] because we had the state map and, of course, wherever there were incidents, there were the symbols and things. So, you could just see right across the state, just the enormity of it ... So, in terms of some of the key things that we probably learned about information and warnings to communities as a result of Black Saturday, was really the importance of timely, relevant and tailored information (Community Engagement Manager 2).

Interviewees also referred to cues embedded in the Commission's *inquiry* i.e., anomalies and inconsistencies in firefighting practices were revealed as a result of the inquiry process.

I reckon the Commission was correct in that we were very operationally focused on putting the fire out at all costs and the bit that the Commission picked up on [was] about not adequately keeping the community informed, pre- and during and post- the event (Regional Fire Operations Officer 1).

Here, we discerned that emergency management practitioners used a *forensic* frame that emanated from the investigative processes employed by the Commission. In this case, it was the expertise, training and identity of lawyers and Commissioners, who through the use of experts, questioning, research, etc., helped practitioners to make sense of the events of Black

Saturday.

Interviewees indicated that, as a result of this initial sensemaking, they began to question their existing understandings concerning Victoria's safety policy and the role of warnings. Insofar as sense was made, individuals came to a shared conclusion that previous practices had failed.

One of the big things with Black Saturday especially with our post, [was] once you find out that, because the fire was so intense, fire-fighting was pretty much futile. What we should have done was down tools, and then started a commentary to say: 'Well, we can't fight this fire' (Deputy Chief Officer 2).

In other words, it became clear that practices associated with the existing 'Stay or Go' policy had not worked on Black Saturday.

This sensemaking appeared to do little, however, to reduce the equivocality generated by the Commission's report. Although practitioners agreed that practices had been problematic, it was not clear to them as to why the practices had failed. As a result, interviewees talked of continuing confusion and uncertainty.

Black Saturday ... just went crazy and caused all this devastation and years' worth of looking back and trying to understand it (Community Information Officer 1).

Even when individuals indicated that they had come to understand what had gone 'wrong', they were far less clear about what the solutions were.

We'd lock ourselves away, have a chat and have lunch together and say: 'All right, what's our problem?' 'How do we fix it?' You need to do that. I need to do that. We need to talk to this person. Off we go. Then we come back a week later. 'How did we go?' So, it was constant flux (Deputy Chief Officer 2).

In sum, initial sensemaking was associated with the creation of new conversations in which retrospective sensemaking took place as cues embedded in the incident and the inquiry were recognized. Using professional and forensic frames, interviewees started to make sense of Black Saturday by questioning past practices and coming to a shared understanding that these practices had clearly failed on Black Saturday. This phase of sensemaking was the

initial reaction to equivocality generated by the Commission's report, although it had little impact in reducing it.

Phase II Sensemaking: New Tools and Technologies

The focus of sensemaking then shifted from questioning longstanding practices towards developing a shared understanding about new tools and technologies that would prevent some of the problems encountered on Black Saturday. This sensemaking was *retrospective* insofar as interviewees referred to cues embedded in the *inquiry* i.e., the Commission's report and its recommendations.

There [was] a range of things that [Recommendation One] was obviously going to change. The facts around the public warnings and the messaging to the community being a paramount one (Regional Operations Manager 2).

In this instance, there was evidence of an *authority* frame i.e., practitioners took steps to develop new tools and technologies because they were legally obliged to. In this case, the frame was not of the practitioners own making, such as their training and identity. Instead, it drew from the official identity and legal status of the inquiry.

The Royal Commission comes along, makes the recommendations it makes, and government accepts all of those. So, the minute that happened, of course, that then forces us into a process of change (Executive Director 2).

This authority frame was reinforced by the Victorian government's support for the recommendations and its appointment of an Implementation Monitor to track progress.

You couldn't opt out. You couldn't say I am not going to play with you, because [the Implementation Monitor] would smack you in the head (Deputy Chief Officer 2).

There was, however, also evidence of *prospective* sensemaking: while Recommendation One might have demanded that the emergency management organizations improve warnings, the Commission did not – and could not – give detailed guidance on exactly which particular tools and technologies should be developed, and how. This had to be worked out by the practitioners. Based on their professional expertise, training and identities

(i.e., a *professional* frame), practitioners discerned cues embedded in the *implementation* process as they identified anomalies and incongruities that would impede the development of new tools and technologies.

There was a group set up with the whole development of the ‘one source, one message’. So, that had to be developed in a very short timeline, and then it was a matter of retraining all our staff and those sorts of things (Community Engagement Manager 2).

This sensemaking helped practitioners develop specific tools and technologies to implement Recommendation One. A ‘one source one message’ system – a web-based messaging tool – enabled incident control teams to post emergency alert messages on an electronic platform and disseminate them to all mobile devices in affected communities, social media, and the websites of all emergency management organizations. ‘E-mapping’ enabled functional experts to profile risks that were emerging in different regions according to predicted fire patterns and tailor warnings to the severity and stage of the fire.

In sum, new tools and technologies emerged from a mix of retrospective and prospective sensemaking. Practitioners referred back to cues in the report through an authority frame, and as well as using a professional frame to refer forward to cues in the implementation process that could impede the functionality of these tools and technologies. In this way, they came to a shared understanding of how to warn the community more effectively. This phase appeared to reduce equivocality: when interviewees talked about new tools and technologies, there was little mention of confusion, uncertainty or ambiguity.

I was amazed just how much has happened in the community information and warning space to the point that other jurisdictions are now looking at what we are doing in Victoria. It’s come a long way (Communications Manager 1).

E-mapping is really assisting us to ... assess what the likely threats and risks are. So, we’re much better at the predictive side of things. We’re getting on the front foot and that’s really helpful (Incident Controller 4).

Phase III Sensemaking: New Meanings of Work

The development of new tools and technologies for monitoring bushfires and

communicating with communities helped to reduce equivocality, but it did not mean the end of sensemaking. In fact, further sensemaking took place as practitioners attempted to incorporate these new tools and technologies into emergency management operations. This phase of sensemaking resulted in a new understanding of what the work of emergency management involved – warning the community was now as important as putting out the fire.

We had to ... literally redefine the role of community engagement. For the incident controllers and the operations people, the previous focus had been on suppression tactics – they were happy simply to tell the community they were putting the fire out (Community Information Officer 1).

Specifically, practitioners came to an understanding that the meaning of ‘fighting’ fires needed to be redefined in order to incorporate ‘communications.’ This, in turn, would require significant changes in how emergency management was organized.

There was a time I would have said that an Incident Controller’s right-hand man is his Operations Officer, now I’d say it’s his Information person. In days gone by, we would have put the fire out and then told the community but, now, we keep them informed (Regional Manager 3).

This phase was characterized by some *retrospective* sensemaking insofar as the Royal Commission had indicated that a new approach to warnings and communication must be instituted i.e., sensemaking was driven by cues from the *inquiry* discerned by practitioners through an *authority* frame.

At the operations level there really wasn’t the respect for giving the community information. It was all about putting water on the fires. So, there was a whole load of work that needed to happen around change management initiatives. It just wasn’t part of the organization. And the only way this changed was as a result of the recommendations around warning and information. The Royal Commission was the only thing that was big enough to tell us all what we needed to do (Project Officer 1).

However, the specific changes that would be required were unclear.

We couldn’t fix all these problems in four years because it [was] culture problems ... from my point of view it takes 5-10 years to change culture properly (Senior Operations Officer 1).

Sensemaking was therefore also *prospective* as practitioners discerned cues embedded in the *implementation* process by identifying future problems that could impede the new tools and

technologies being put into practice.

We had a lot of difficulty with acceptance of responsibility. People were not willing to take it up ... that was a real problem with cultural change, which wasn't recognised by the organization. Some of us who've been involved in cultural change said: 'You will just have to accept people will fight you, and they will push you back and they will act up and, sometimes, you will have to be a little bit rough with them to push them' (Logistics Officer 1).

These cues were discerned by practitioners' drawing on an *organizational* frame, rather than the professional one adopted in the previous phase. There was less focus on the practicalities of immediate tasks or the functionality of specific tools and more emphasis on the future alignment of organizational activities with a new definition of emergency management.

The recommendations have resulted in degrees of changing the culture: changing the thinking, changing the approach for a whole range of things that weren't ostensibly part of the recommendations per se (Project Manager 4).

As new understandings emerged regarding the incorporation of communications into operations and the need for an organizational or inter-organizational response, equivocality appeared to decrease. Individuals expressed considerable certainty and confidence when they spoke about these organizational changes.

The willingness to work together is far greater than I've ever witnessed ... it's the attitude within the leadership and the staff within all of the agencies that has undergone the biggest change in a maturing sort of sense, [with] a level of sophistication of thought that is different (Executive Director 1).

We had traditionally been very focused, up to Black Saturday, on procedural aspects and, if it wasn't written, it did mean that you didn't do it. We're still not there yet, but there's a far greater appreciation of the importance of relationships within agencies, but also across agencies, and the team concept (Incident Controller 2).

In this phase, sensemaking was associated with a new meaning for emergency management work as practitioners came to understand that the effective use of new tools and technologies required more profound organizational changes. It followed from the development of new tools and technologies, but also extended beyond it.

It [Recommendation 1] changed my role in a major way. I remember a senior

manager coming to me and saying that they were anticipating a lot of change in the warning and information area. [S/he] wanted to know if I wanted to be involved for a couple of months – that was five years ago (Project Manager 3).

This phase of sensemaking was both retrospective and prospective as an organizational frame was brought to bear on potential implementation issues, rather than immediate practical concerns. Equivocality, which had already been decreased by the development of new tools and technologies, appeared to decrease even further.

Phase IV Sensemaking: Speculating

We identified a fourth phase of sensemaking as interviewees started to reflect more fundamentally on the implications of the changes that had been implemented for future bushfires.

The reality is we can't change the environment. Eucalypt forests have evolved, and we've been messing around [with them] for 200 years and made a bit of a hash of it. So, I do think that the Royal Commission was a missed opportunity to have a debate with ... about what it is to live in this physical environment (State Coordinator 1).

This phase of sensemaking queried whether the new warning system would inadvertently absolve people living in fire-prone areas from taking responsibility for their own safety in the future.

While there's been clear improvements around how to warn community and whatever, and how we work together, I think the end result will be quite destructive ... I think the Royal Commission ... absolved a lot of people of their personal responsibility. It ... destroyed the notion that if you are going to stay in the bush, or you're going to live deep in the bush, then you have to have a plan (Director 2).

In this phase, sensemaking was *prospective*. Cues were embedded in practitioners' *imagination* i.e., by looking into the future and imagining what might happen through a *professional* frame.

You do wonder, will ... the change actually make a difference if we get another day like Black Saturday? I suppose the Royal Commission has left a legacy now where people are now expecting more in terms of warning and that's bound to be difficult (Communications Manager 1).

Practitioners anticipated that the new practices would fail in the event of another Black Saturday, as a result of which equivocality started to increase again.

There are better systems in place now for warning the public [but] I reckon if we had another Black Saturday we'd still be in a lot of trouble. We'd probably have a better outcome, but it still wouldn't be good. I still think you'd have a lot of houses lost and I suspect you'd still end up having people being killed (Regional Operations Manager 1).

To recap, in this fourth phase sensemaking became more prospective as practitioners used a professional frame to wrestle with cues embedded in their imagination, leading them to anticipate the future failure of the new practices that had been implemented. While equivocality had decreased as a result of new tools and technologies and the new understanding of what emergency management meant, it now appeared to increase again.

A Model of Post-Inquiry Sensemaking

In this section, we present a model (Figure 2) of post-inquiry sensemaking that consists of four phases taking place over time.

– Figure 2 here –

The first phase of post-inquiry sensemaking – the immediate response to the inquiry report and recommendations – is primarily retrospective as practitioners recall cues embedded in both the incident and inquiry through forensic and professional frames. The forensic frame, derived from the investigative process, submits the professional frame to deeper scrutiny, helping practitioners to recognize additional cues and calling into question deeply rooted understandings concerning professional practice. If practitioners reject the forensic frame – which may occur if the inquiry over-emphasizes blame, practitioners are excluded from participating, or the ability and expertise of inquiry members are challenged – important cues embedded in the inquiry will be missed. As a result, practitioners may fail to question existing understandings of professional practice and are more likely to repeat the mistakes of the past. It seems unlikely that practitioners would adopt a forensic frame and

reject the professional frame given their background, training and identity but, if they did, then initial sensemaking would probably be hindered by an inability to access professional expertise and tacit knowledge. Thus, when used together, the two frames complement each other in challenging existing understandings, although the result is that equivocality, which is already high following the inquiry, increases further.

The second and third phases of post-inquiry sensemaking follow from the initial sensemaking conversations. They are both partly retrospective in that cues embedded in the inquiry are recognized through an authority frame typically in the form of legal and/or formal obligations. However, sensemaking also starts to become prospective as practitioners use professional and organizational frames to identify cues embedded in the immediate future of the implementation process. These cues include signals of shortcomings of new tools and technologies (Phase II) and potential organizational barriers to change (Phase III). Using multiple frames during these two phases allows practitioners to put professional and organizational flesh on the bare bones of the recommendations. The authority frame directs practitioners towards cues related to legal or formal obligations; professional and organizational frames help individuals make sense of how they might carry out these obligations. As a result of these two phases, sensemaking reduces equivocality by helping individuals both to make of what went wrong *and* to implement solutions.

Failure to employ all three frames during these two phases is likely to hinder sensemaking. First, practitioners that reject the authority frame by ignoring or resisting the inquiry's recommendations will likely incur political or managerial sanctions. Second, surrendering to the authority frame without reference to professional and organizational frames makes it difficult to make sense of the future issues that might arise when recommendations are embedded in particular work and organizational contexts. Third, privileging a professional frame over an organizational frame will result in practitioners who

are unable to see the ‘big picture’ and remain mired in the intricacies of their particular professional specialism. As a result, new tools and technologies may prove ineffective because they are not successfully incorporated into the larger organization. Finally, privileging the organizational frame at the expense of the professional frame – which may occur if, for example, senior managers drive organizational change without consulting practitioners – will undermine implementation through a misalignment between organizational arrangements and specialist expertise.

In the fourth phase, sensemaking becomes even more prospective as individuals speculate what could happen by projecting cues into a longer-term hypothetical future. It leads to an understanding that new practices and meanings are not foolproof and may fail in the future despite – or even because of – successful implementation. This phase of sensemaking involves forward-looking, ‘anticipatory’ reflection (Raelin (2001), as practitioners’ imagination gives form to unknown things, invents new meanings and creates new realities (Weick, 2006; Komporozos-Athanasίου & Fotaki, 2015). Equivocality starts to increase as the possibility of future incidents becomes apparent and practitioners realize that implementing inquiry recommendations has not solved all the problems and may even have created new ones.

Discussion and Conclusion

Our study makes a number of contributions to the sensemaking literature. First, it shows that post-inquiry sensemaking takes the form of four distinct but overlapping phases that occur over time. Contrary to research that suggests that sensemaking reduces equivocality (e.g., Weick, 1995; Maitlis & Christianson, 2014), our study shows that post-inquiry sensemaking is characterized by *fluctuating* equivocality. The first phase increases equivocality as individuals question previous practices; and, while the second and third phases of sensemaking reduce it, speculation about the future increases it again during the

fourth phase. Accordingly, our study suggests that the link between sensemaking and equivocality is more complex than is generally assumed and that certain forms of sensemaking can exacerbate equivocality.

Our study also shows that the distinct nature of the post-inquiry setting enables individuals to use multiple frames associated with different organizational settings to recognize cues. These frames are *performative* – they enable different cues to be ‘seen’, interpreted and acted upon. Our study explains how combining frames helps individuals to see a problem from existing viewpoints and change their perspective. However, contrary to the existing literature, which tends to assume that blending multiple frames and/or introducing new frames results from ‘institutional entrepreneurs’ who engage in ‘skilful reframing’ (Werner & Cornelissen, 2014), our study suggests that frames are available to *all* actors as they navigate different organizational settings. In other words, events during an incident encourage practitioners to engage in sensemaking through a professional frame. The fact that an inquiry involves a deliberative, investigative process provides access to a forensic frame; while its formal status gives rise to an authority frame. Insofar as implementation involves organizational changes that extend beyond the narrow confines of individual specialisms, practitioners can supplement their professional frame with an organizational frame. In this way, our study suggests that resilient sensemaking can occur among organizational members who are not necessarily organizational elites or gifted change agents.

Third, our study provides considerable insight into prospective sensemaking, showing how it occurs through the recognition of cues embedded in anticipated future events – such as those associated with the implementation process – as well as in practitioners’ imaginations. In contrast to Stigliani and Ravasi (2012) who found that prospective sensemaking occurred through interrelated cycles of retrospection in the creative setting of a design consultancy, our study indicates that prospective sensemaking expands progressively over time in the post-

inquiry setting where recommendations are being implemented. It also questions whether prospective sensemaking necessarily ‘interrupts’ retrospective sensemaking as proposed in some studies (e.g., Rosness et al., 2016). We found that it initially *complements* retrospective sensemaking but will, eventually, displace it through a process of ‘progressive approximations’ (cf. Weick, Sutcliff & Obstfeld, 2005). However, unlike Weick, we do *not* see these approximations as “redrafting of an emerging story so that it becomes more comprehensive, incorporates more of the observed data, and is more resilient in the face of criticism” (Weick, Sutcliff & Obstfeld, 2005: 415). Rather than relying on retrospective sensemaking to shore up a linear story of ‘successful’ implementation, practitioners combined it with prospective sensemaking – both within and across multiple post-inquiry sensemaking phases – to bring about implementation and, having done so, to critique it and adapt it to future circumstances, thus making implementation, rather than the narrative of implementation, more resilient.

In this way, our study challenges the idea that prospective sensemaking always occurs through ‘perfect future’ thinking (Weick, 1979), where the future is viewed as having already occurred as individuals “envision a desired or expected future event and then act as if that event had already transpired, thus enabling a ‘retrospective’ interpretation of the imagined event” (Gioia, Corley & Fabbri, 2002: 623). Instead practitioners in our study dealt with the “quandary of living forward” (Mackay & Parks, 2012: 367): after having implemented new tools and meanings to address the past, they speculated that they could “still end up having people being killed” in possible future bushfires. In other words, practitioners can make sense of an indeterminate future through speculation, anticipatory reflexivity and a collective memory that is in flux over the different phases of sensemaking rather than reified in a linear narrative.

In carrying out prospective sensemaking in this way, practitioners used a

conceptualization of ‘event time’ (Patriotta & Gruber, 2015) by imagining how future events – incidents – might unfold during the next bushfire season. Patriotta & Gruber (2015: 1576) show how event time occurs in a newsroom as unplanned events are mapped against shared baseline expectations about the temporal progression of planned events. When deviations from the expected occur, collective understandings are updated in order that practitioners can “fit work into time”. In this way, surprising events are managed as they arise through sensemaking in the present. Our study shows the important role of a prospective form of event time as practitioners anticipate events, allowing them to update their understandings of both what has happened *and* what may happen as they imagine in the present. Shared understandings concerning the efficacy of changes that have been implemented are called into question as sensemaking becomes increasingly prospective: what was previously a sensible present is transformed into a not so sensible future. By rendering the future as unfinalized and uncertain in this way, prospective sensemaking initiates a re-think of the past and a re-consideration of the present (cf. Dawson & Sykes, 2018), thereby re-configuring the relationship between the past, present, and future

Our study thus contributes to the development of more complex appreciations of temporality in sensemaking research, which tends to divide up time and assume that the past is replaced by the present. In fact, the past “is always and already coexisting in the present” (Introna, 2019: 752), as “pasts and futures come together in temporal sensemaking of an emergent present” (Dawson & Sykes, 2019: 97). Our study of post-inquiry sensemaking reveals these dynamics. It occurs in the ‘present’ of the post-inquiry setting as individuals engage with the ‘past’ – the incident and inquiry. This ‘past’ is indelibly part of the ‘present’ in that cues embedded in the incident and inquiry are available for sensemaking in the post-inquiry present. The ‘future’ is also part of the ‘present’ in that post-inquiry sensemaking involves the projection of cues into the future as a way of making sense of imagined,

hypothetical scenarios in which potential incidents may or may not materialize. But as sensemaking turns to the future, it also changes the past as shared understandings about ‘successful’ implementation are revised. Prospective sensemaking thus draws from – and also alters – views of the present, as shifting interpretations may achieve only transitory stability (Wiebe, 2010). As such, the post-inquiry setting offers a unique opportunity to identify empirically some of the temporal complexity and fluidity to which theorists have alluded (e.g., Dawson & Sykes, 2019; Introna, 2019).

The limitations of our study include the following. First, we relied on retrospective interviews and, as with any set of interviews, individuals have selected, omitted and forgotten certain details – interpreting and presenting their own reading of events. This created challenges, especially with our temporal analysis, since interviewees may have imposed a retrospective logic on events. We could therefore only *infer* a temporal sequence from our analysis of retrospective interviews, and our diagram is only indicative of the timing of each of the phases. Researchers could, therefore, build on our study by conducting longitudinal studies, where the precise timing of different sensemaking activities and sequencing of sensemaking phases can be investigated more rigorously. A second limitation is that we focused on practitioner sensemaking whereas other actors – inquiry members, politicians, media, the public, etc. – would also have been involved. Future research could, therefore, build on our work by using ethnographic methods to flesh out the different interactions involved in post-inquiry sensemaking. A third limitation is that our analysis is subjective and based on our interpretation of interviewees’ interpretations. We did not formally evaluate the effectiveness of the new practices. Future research could, therefore, examine the success (or failure) of post-inquiry sensemaking more systematically. Finally, we chose to conduct a more finely grained analysis on Recommendation One, rather than try to explore all 67 recommendations. Tracking the implementation of other recommendations may have

generated different findings, although interviewees indicated that they had similar experiences with other recommendations.

Notwithstanding these limitations, our study offers considerable insight into sensemaking in post-inquiry settings and provides a basis for future research to see if our model applies to other settings. It seems unlikely that it would apply to incidents because of the compression of time (e.g., Colville et al., 2013), as well as the absence or unavailability of forensic, authority, and organizational frames. However, inquiry sensemaking might incorporate features of our model: insofar as inquiries make recommendations, they may engage in prospective sensemaking; because they can call different experts and witnesses, they may have access to multiple frames; and they may involve sufficient time for sequential phases of sensemaking to occur. Another avenue for future research would be to explore whether our model applies to sensemaking during organizational/strategic change (e.g., Balogun & Johnson, 2005; Lüscher & Lewis, 2008). Despite not having the ‘legacy’ of an earlier incident or inquiry, organizational/strategic change often follows from some kind of consulting report containing recommendations, which could play a similar role to an inquiry report. Moreover, change initiatives may allow for access to multiple frames and involve sufficient time for sequential phases of sensemaking.

Our model offers practical contributions for dealing with the aftermath of an inquiry. Retrospective sensemaking following the inquiry helps individuals to question previously taken-for-granted aspects of their professional practice that contributed to the incident. This helps organizations to address intractable problems where “it may be necessary first to unlearn existing responses” (Brook et al., 2015: 369). The second and third phases of sensemaking then enable organizations to develop new routines and resume activity after the incident and inquiry (cf. Christianson et al., 2009). This helps to address any secondary crisis within the organization caused by the incident and/or inquiry (cf. Smith & Elliott, 2007).

Finally, a more proactive and speculative form of sensemaking helps individuals to reflect anticipatorily on what may happen in the future despite – or because of – the changes that have been implemented.

Post-inquiry sensemaking is important. Despite the tendency to dismiss inquiries as stage-managed events whose recommendations are political, they are nonetheless vehicles for developing recommendations for change that could reduce the chances of negative incidents reoccurring or, at least, reducing the adverse effects if they do. However, as our study shows, success depends upon more than simply making recommendations; it requires continued retrospective *and* prospective sensemaking in the post-inquiry setting to ensure that the recommendations are both implemented and reflected upon, enabling individuals to learn more deeply from the incident that give rise to the inquiry. As one practitioner told us: “I think what we’ve ended up with – and where we’re heading – is something greater than the sum of the 67 recommendations.”

References

- Balogun, J., & Johnson, G. (2005). From intended strategies to unintended outcomes: The impact of change recipient sensemaking. *Organization Studies*, 26(11), 1573-1601.
- Barton, M. A., & Sutcliffe, K. M. (2009). Overcoming dysfunctional momentum: Organizational safety as a social achievement. *Human Relations*, 62(9), 1327-1356.
- Boudes, T., & Laroche, H. (2009). Taking off the heat: Narrative sensemaking in post-crisis inquiry reports. *Organization Studies*, 30(4), 377-396.
- Brook, C., Pedler, M., Abbott, C., & Burgoyne, J. (2016). On stopping doing those things that are not getting us to where we want to be: Unlearning, wicked problems and critical action learning. *Human Relations*, 69(2), 369-389.
- Brown, A. D. (2004). Authoritative sensemaking in a public inquiry report. *Organization Studies* 25(1), 95-112.
- Brown, A. D. (2005). Making sense of the collapse of Barings Bank. *Human Relations*, 58(12), 1579-1604.
- Brown, A.D. & Jones, M. (2000). Honourable members and dishonourable deeds: sensemaking, impression management and legitimation in the 'Arms to Iraq' affair. *Human Relations*, 53(5): 655-689.
- Brown, A. D., Colville, I., & Pye, A. (2015). Making sense of sensemaking in organization studies. *Organization Studies*, 36(2), 265-277.
- Implementation Monitor (2014). *Annual Report, July 2014*. <http://www.igem.gov.au> (retrieved 24.10.2018).
- Catino, M., & Patriotta, G. (2013). Learning from errors: Cognition, emotions and safety culture in the Italian air force. *Organization Studies*, 34(4), 437-467.
- Christianson, M. K., Farkas, M. T., Sutcliffe, K. M., & Weick, K. E. (2009). Learning through rare events: Significant interruptions at the Baltimore & Ohio Railroad Museum. *Organization Science*, 20(5), 846-86
- Colville, I., Brown, A. D., & Pye, A. (2012). Simplicity: Sensemaking, organizing and storytelling for our time. *Human Relations*, 65(1), 5-15.
- Colville, I., Pye, A., & Carter, M. (2013). Organizing to counter terrorism: Sensemaking amidst dynamic complexity. *Human Relations*, 66(9), 1201-1223.
- Cornelissen, J. P., Mantere, S., & Vaara, E. (2014). The contraction of meaning: The combined effect of communication, emotions, and materiality on sensemaking in the Stockwell shooting. *Journal of Management Studies*, 51(5), 699-736.
- Dawson, P., & Sykes, C. (2019). Concepts of time and temporality in the storytelling and sensemaking literatures: A Review and Critique. *International Journal of Management Reviews*, 21, 97-114.

- Dwyer, G., & Hardy, C. (2016). We have not lived long enough: Sensemaking and learning from bushfire in Australia. *Management Learning*, 47(1), 45-64.
- Gephart, R. (1993). The textual approach: Risk and blame in disaster sensemaking. *Academy of Management Journal*, 36(6), 1465-1514.
- Gephart, R., Topal, C., & Zhang, Z. (2010). Future-oriented sensemaking: Temporalities and institutional legitimation. In T. Hernes and S. Maitlis (Eds.), *Process, sensemaking and organizing*, 275–312. Oxford: Oxford University Press.
- Gioia, D., Mehra, A. (1996). Sensemaking in Organizations. *Academy of Management Review* 21(4), 1226-31.
- Gioia, D., Corley, K., Fabbri, T. (2002). Revising the past (while thinking in the future perfect tense). *Journal of Organizational Change Management*, 15(6), 622–634.
- Guiette, A., & Vandenbempt, K. (2016). Learning in times of dynamic complexity through balancing phenomenal qualities of sensemaking. *Management Learning*, 47(1), 83-99.
- Introna, L.D. (2019). On the making of sense in sensemaking: Decentred sensemaking in the meshwork of life. *Organization Studies*, 40(5): 745-764.
- Komporozos-Athanasiou, A., & Fotaki, M. (2015). A theory of imagination for organization studies using the work of Cornelius Castoriadis. *Organization Studies*, 36(3), 321-342.
- Konlechner, S., Latzke, M., Güttel, W.H. & Höfferer, E. (2018). Prospective sensemaking, frames and planned change interventions: A comparison of change trajectories in two hospital units. *Human Relations*, 72(4): 706–732.
- Lüscher, L. S., & Lewis, M. W. (2008). Organizational change and managerial sensemaking: Working through paradox. *Academy of Management Journal*, 51(2), 221-240.
- MacKay, R.B., & Parks, R.W. (2013). The temporal dynamics of sensemaking: A hindsight–foresight analysis of public commission reporting into the past and future of the ‘new terrorism’. *Technological Forecasting & Social Change*, 80, 364–377.
- Maitlis, S., & Christianson, M. (2014). Sensemaking in organizations: Taking stock and moving forward. *Academy of Management Annals*, 8(1), 57-125.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. Thousand Oaks, CA: Sage.
- Patriotta, G., & Gruber, D.A. (2015). Newsmaking and Sensemaking: Navigating Temporal Transitions Between Planned and Unexpected Events. *Organization Science*, 26(6):1574-1592.
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Thousand Oaks, CA: Sage.
- Prasser, S. (2012). Royal commissions: how do they work? <https://theconversation.com/royal-commissions-how-do-they-work-10668> (Retrieved 12.12.2018)

- Raelin, J. A. (2001). Public reflection as the basis of learning. *Management Learning*, 32(1), 11-30.
- Ron, N., Lipshitz, R., & Popper, M. (2006). How organizations learn: Post-flight reviews in an F-16 fighter squadron. *Organization Studies*, 27(8), 1069-1089.
- Rosness, R., Evjemo, T.E., Haavik, T., & Wærø, I. (2016). Prospective sensemaking in the operating theatre. *Cognition, Technology & Work*, 18, 53–69.
- Sandberg, J., & Tsoukas, H. (2015). Making sense of the sensemaking perspective: Its constituents, limitations, and opportunities for further development. *Journal of Organizational Behavior*, 36(S1), S6-S32.
- Smith, D., & Elliott, D. (2007). Exploring the barriers to learning from crisis: Organizational learning and crisis. *Management Learning*, 38(5), 519-538.
- Stigliani, I., & Ravasi, D. (2012). Organizing thoughts and connecting brains: Material practices and the transition from individual to group-level prospective sensemaking. *Academy of Management Journal*, 55(5), 1232-1259.
- Vaughan, D. (1990). Autonomy, interdependence, and social control: NASA and the space shuttle Challenger. *Administrative Science Quarterly*, 35(2), 225-257.
- VBRC (Victorian Bushfires Royal Commission). (2010). *The 2009 Victorian Bushfire Royal Commission Final Report*. <http://royalcommission.vic.gov.au/Commission-Reports/Final-Report.html> (Retrieved 1.1.2018).
- Wiebe, E. (2010) Temporal sensemaking: Managers' use of time to frame Organizational change. In T. Hernes and S. Maitlis (Eds.), *Process, sensemaking and organizing*, 213–241. Oxford: Oxford University Press.
- Weick, K. E. (1990). Technology as equivoque: sensemaking in new technologies. In P.S. Goodman & L.S Sproull (Eds.), *Technology and Organizations*, 1-44. Jossey-Bass, San Francisco, CA.
- Weick, K. E. (1993). The collapse of sensemaking in organizations: The Mann Gulch disaster. *Administrative Science Quarterly*, 38(4), 628-652.
- Weick, K. E. (1995). *Sensemaking in organizations (Vol. 3)*. Thousand Oaks, CA: Sage.
- Weick, K. E. (2006). The role of imagination in the organizing of knowledge. *European Journal of Information Systems*, 15(5), 446-452.
- Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2005). Organizing and the process of sensemaking. *Organization Science*, 16(4), 409-421.
- Werner, M. D., & Cornelissen, J. P. (2014). Framing the change: Switching and blending frames and their role in instigating institutional change. *Organization Studies*, 35(10), 1449-1472.
- Whiteman, G., & Cooper, W. H. (2011). Ecological sensemaking. *Academy of Management Journal*, 54(5), 889-911.

Table 1: The Implementation of Recommendation One

	<i>Before Recommendation One</i>	<i>After Implementing Recommendation One</i>
<i>Changes in policy</i>	On days of high bushfire danger, the ‘Stay or Go’ policy provided a framework for individuals to decide whether to stay and defend their property or leave early before the predicted passage of the fire	Emergency management organizations offer explicit warnings on days of high fire danger about the severity of the fire and advise the actions that people should take
<i>Changes in responsibility</i>	Individuals living in fire prone areas were responsible for evaluating the specific risks they faced and making decisions based on their specific circumstances	Emergency management organizations are responsible for providing individuals with tailored warnings that provide timely and informative advice about the predicted passage of fire and specify the actions to be taken by people potentially in its path Community members are responsible for acting on prescriptive advice
<i>Changes in practices</i>	Warnings were issued by emergency management organizations with little involvement from local communities Warnings were based on long range plans and forecasts with generic information relating to specific fire types	Warnings are issued from incident control centres and posted electronically through a variety of websites and mobile applications Warnings explicitly advise individuals on the optimal timeframes for leaving their property Warnings require emergency management organizations to work with local government authorities, communities, ABC Radio and local radio stations

Table 2: Interviewees

<i>Senior Managers</i>	<i>Middle Managers</i>	<i>Functional Experts</i>
Assistant Chief Officer 1	Communications Manager 1	Brigade Captain 1
Assistant Director 1	Community Education Manager 1	Community Engagement Officer 1
Deputy Chief Officer 1	Community Engagement Manager 1	Community Information Officer 1
Deputy Chief Officer 2	Community Engagement Manager 2	Fire Operations Officer 1
Director 1	Community Safety Manager 1	Fire Planning Officer 1
Director 2	Emergency Coordination Manager 1	Fire Planning Officer 2
Director 3	Operations Manager 1	Firefighter 1
Executive Director 1	Policy Manager 1	Firefighter 2
Executive Director 2	Policy Manager 2	Incident Controller 1
Regional Director 1	Project Manager 1	Incident Controller 2
Regional Director 2	Project Manager 2	Incident Controller 3
Senior Executive 1	Project Manager 3	Incident Controller 4
Senior Fire Officer 1	Project Manager 4	Logistics Officer 1
Senior Fire Officer 2	Regional Manager 1	Organizational Psychologist 1
Senior Operations Officer 1	Regional Manager 2	Project Officer 1
Senior Operations Officer 2	Regional Manager 3	Public Information Officer 1
Senior Operations Officer 3	Regional Operations Manager 1	Public Information Officer 2
State Coordinator 1	Regional Operations Manager 2	Public Information Officer 3
State Operations Officer 1	Regional Operations Manager 3	Regional Fire Operations Officer 1
Weather Services Manager 1	Regional Operations Manager 4	Regional Operations Officer 1
	Senior Policy Officer 1	Regional Operations Officer 2

Table 3: Coding

<i>Descriptive Codes</i>	<i>Descriptors</i>	<i>Analytical codes</i>	<i>Sub-codes</i>
<i>Post-Inquiry Equivocality:</i> situations that allow for multiple meanings and interpretations	References to ‘uncertainty’, ‘complications’, ‘confusion’, ‘out of control’, ‘doubt’, ‘challenge’, ‘conflict’ dilemma	Degree of equivocality	High: interviewees report experiencing uncertainty, confusion, ambiguity Low: interviewees do not report experiencing uncertainty, confusion, ambiguity
		Change in equivocality	Increasing: interviewees report ongoing experience of uncertainty, confusion, ambiguity Decreasing: interviewees give accounts of how greater certainty has been achieved
<i>Post-Inquiry Sensemaking:</i> processes through which meanings are created and shared to make sense of equivocal inputs	References to ‘sense’, ‘interpret’, ‘understand’, ‘discuss’, ‘dialogue’, ‘agree’	Cues: anomalies and discrepancies located in talk, texts, interactions, events, experiences, that cause individuals to take note and engage in further interpretation	Embedded in the incident: interviewees refer to anomalies they noted on Black Saturday Embedded in the inquiry: interviewees refer to anomalies noted in the hearings or the report of the Royal Commission Embedded in implementation: interviewees refer to anomalies in how current organizational practices align with recommendations Embedded in imagination: interviewees speculate about future anomalies
		Frames: interpretive schemes, based on experience, training, culture, identity, etc. that shape what people notice and what they decide requires further attention	Professional: in reflecting on cues, interviewees refer to their professional expertise and/or practice Forensic: in reflecting on cues, interviewees refer to investigative processes and legal questioning Authority: in reflecting on cues, interviewees refer to legal/legislative requirements obliging them to act Organizational: in reflecting on cues, interviews refer to their experience and knowledge of the organization

Table 4: Illustrative Quotes for Post-Inquiry Equivocality

<p>Equivocality: situations that allow for multiple meanings and interpretations and are associated with confusion and ambivalence, uncertainty and/or ambiguity.</p>	
<p>High: uncertainty, confusion, ambiguity expressed</p>	<p>Our government loves nothing more than to say we'll just build fire refuges in every high-risk area, that will solve the problem. Well, it doesn't. [First,] they won't be able to afford it. Each of those things cost us a couple of million dollars each ... The next public policy question is that we're actually asking people to do something which is dangerous; which is to travel in the landscape at the last minute, when it's burning. That's the circumstances when most people will die during bushfire. So, are we encouraging people to take very risky last-minute actions that may result in [them] being killed? (Brigade Captain 1).</p>
<p>Low: uncertainty, confusion, ambiguity not expressed</p>	<p>There has been a move towards embracing [telecommunications] technology to manage our risk. Our facilities have had a big makeover. In our centre we've gone from 20 seats to 35. We had nearly \$300,000 investment here because, really, we were being run as a call centre and not an information centre. So, that's good (Public Information Officer 3).</p>
<p>Increasing: accounts of ongoing uncertainty, confusion, ambiguity</p>	<p>There's still so much work to do – much to the frustration of many us. There are people operating in the same incident control centres and they are operating different technology systems. We certainly got a lot of money for a few years, but that lifecycle is ending now and the work that didn't get done won't get done ... Sometimes we don't even move forward (Assistant Chief Officer 1).</p>
<p>Decreasing: accounts that greater certainty has been achieved</p>	<p>In a general sense, I think that the clarity of control for large incidents is much better now than what it was pre-Black Saturday. No doubt. Generally, it has been, I think, a really positive thing. We're much more consistent, working together better, more integrated ... So, if you stand back and look at where we were pre-Black Saturday, pre-Royal Commission to where we are now, we're miles ahead. People get messages on their phones. They get rung at home. They get stuff on websites. The level of information is better. The speed is better. (Senior Fire Officer 2).</p>

Table 5: Illustrative Quotes for Cues

<p>Cues: anomalies of some kind located in talk, texts, interactions, events, experiences, and material objects that cause individuals to take note of phenomena; their initial sense (or nonsense) is subjected to further interpretation to make more organized sense of them.</p>	
<p>Cues derived from practitioners' experience of the fires (embedded in the incident)</p>	<p>I remember saying to the Minister on Black Saturday when he came into the control centre wanting to know what was happening ... He said: 'How can you not know what's happening?' I said: 'Have a look out there: you've got three phone systems, four computer systems in that room, [but] there are people who can't talk to each other in the [same] building or even in that room! Do you know that?' (Senior Fire Officer 1).</p>
<p>Cues derived from practitioners' experience of participating in the hearings (embedded in the inquiry)</p>	<p>On days like Black Saturday the emergency management arrangements get pretty complex There was vagueness about who was in charge and it's like it didn't matter until it was put under extreme pressure Then under the extreme spotlight of the Royal Commission and suddenly it all rather looks shaky (Emergency Coordination Manager 1).</p>
<p>Cues derived from practitioners' experience of reading the final report (embedded in the inquiry)</p>	<p>What happens when you get a Royal Commission [is] there's a heap of recommendations, which we had to figure out We saw the same thing after '39 (Black Friday Fires), we saw it after 1983 (Ash Wednesday fires) and we've seen it now after Black Saturday (State Coordinator 1).</p>
<p>Cues derived from practitioners' experience of their work (embedded in implementation)</p>	<p>To some extent, the technology that they're using is still the same. I think it's very clunky and there's probably better ways of doing it. What I have [also] noticed though is since the funding associated with that recommendation has ceased ... we've pretty much shut down our warnings and information unit. So, there is nobody – there's no team or one individual who is responsible from a project perspective on that. (Community Education Manager 1).</p>
<p>Cues derived from anticipating future problems (embedded in imagination)</p>	<p>A number of people would say we were actually lucky on Black Saturday. [However], it could have been a lot worse and one day it will be, and it will happen again. It's not to say we're not stronger now than we were, but each [fire] event generates and identifies new weaknesses in our systems (State Operations Officer 1).</p>

Table 6: Illustrative Quotes for Frames

<p>Frames: interpretive schemes, based on experience, training, socialization culture, identity that shape what people notice and what they decide requires further attention.</p>	
<p>Professional frame: drawing from expertise, training and identity as fire-fighters</p>	<p>February 7th [Black Saturday] was [an example of] some of the best fire-fighting done anywhere in the world. A massive amount of work [was done by firefighters] to prevent more damage to amenities, to protect water catchments (Deputy Chief Officer 1).</p>
<p>Forensic frame: drawing from the expertise, training and identity of lawyers, as well as the investigative process during the hearings</p>	<p>The initial sitting in the Royal Commission was about my role on that day So, what information did we have, what warnings did we give out, what timeframe, etc. So, there was a bit of analysis of the role (Deputy Chief Officer 1).</p>
<p>Authority frame: drawing from the official identity and legal status of the Royal Commission</p>	<p>There's no doubt that the recommendations have given very clear directions and policy for Government, and they've been agreed to by Government, so that's that (Executive Director 1).</p>
<p>Organizational frame: drawing from the goals, structure, culture and identity of the organization</p>	<p>The recommendations have resulted in degrees of changing the culture, changing the thinking, changing the approach for a whole range of things that weren't ostensibly part of the recommendations per se. [Instead, this] has come out of – how can we do this better [organizationally] thinking? (Project Manager 4).</p>

Table 7: Comparison of the Four Phases of Post-Inquiry Sensemaking

	Phase 1: Questioning	Phase 2: New Tools and Technologies	Phase 3: New Meanings of Work	Phase 4: Speculating
<i>Cues</i>	Embedded in the incident: practitioners' experience of managing fires on Black Saturday Embedded in the inquiry i.e., practitioners' experience of participating in the Commission's hearings and/or reading its report	Embedded in the inquiry: practitioners' experience of participating in the Commission's hearings and/or reading its report Embedded in implementation: practitioners' experience of their work	Embedded in the inquiry: practitioners' experience of participating in the Commission's hearings and/or reading its report Embedded in implementation: practitioners' experience of their work	Embedded in the imagination i.e., practitioners' anticipation of future fires
<i>Temporality of sensemaking</i>	Retrospective: cues are recalled from the incident and the inquiry	Retrospective and prospective: cues are recalled from the inquiry and projected into future implementation	Retrospective and prospective: cues are recalled from the inquiry and projected into future implementation	Prospective: cues are projected into an imagined future
<i>Frame</i>	Professional frame: cues are recognized because the fire's behaviour did not conform to professional expectations Forensic frame: cues are recognized as a result of being subjected to legal questioning	Authority frame: cues are recognized because of legal obligations to act on recommendations Professional frame: cues are recognized because of signs that new tools and technologies will not conform to professional expectations	Authority frame: cues are recognized because of legal obligations to act on recommendations Organizational frame: cues are recognized because of signs that recommendations do not align with current organizational arrangements	Professional frame: cues are recognized because new practices may not meet professional expectations in future fires
<i>New understandings as a result of sensemaking</i>	New understanding that existing practices failed during Black Saturday	New understanding of how the community can be warned more effectively	New understanding that fire 'fighting' involves warning the community	New understanding that newly implemented practices may fail in future bushfires
<i>Effect on equivocality</i>	Equivocality increases	Equivocality decreases	Equivocality decreases	Equivocality increases

Figure 1: Coding Structure

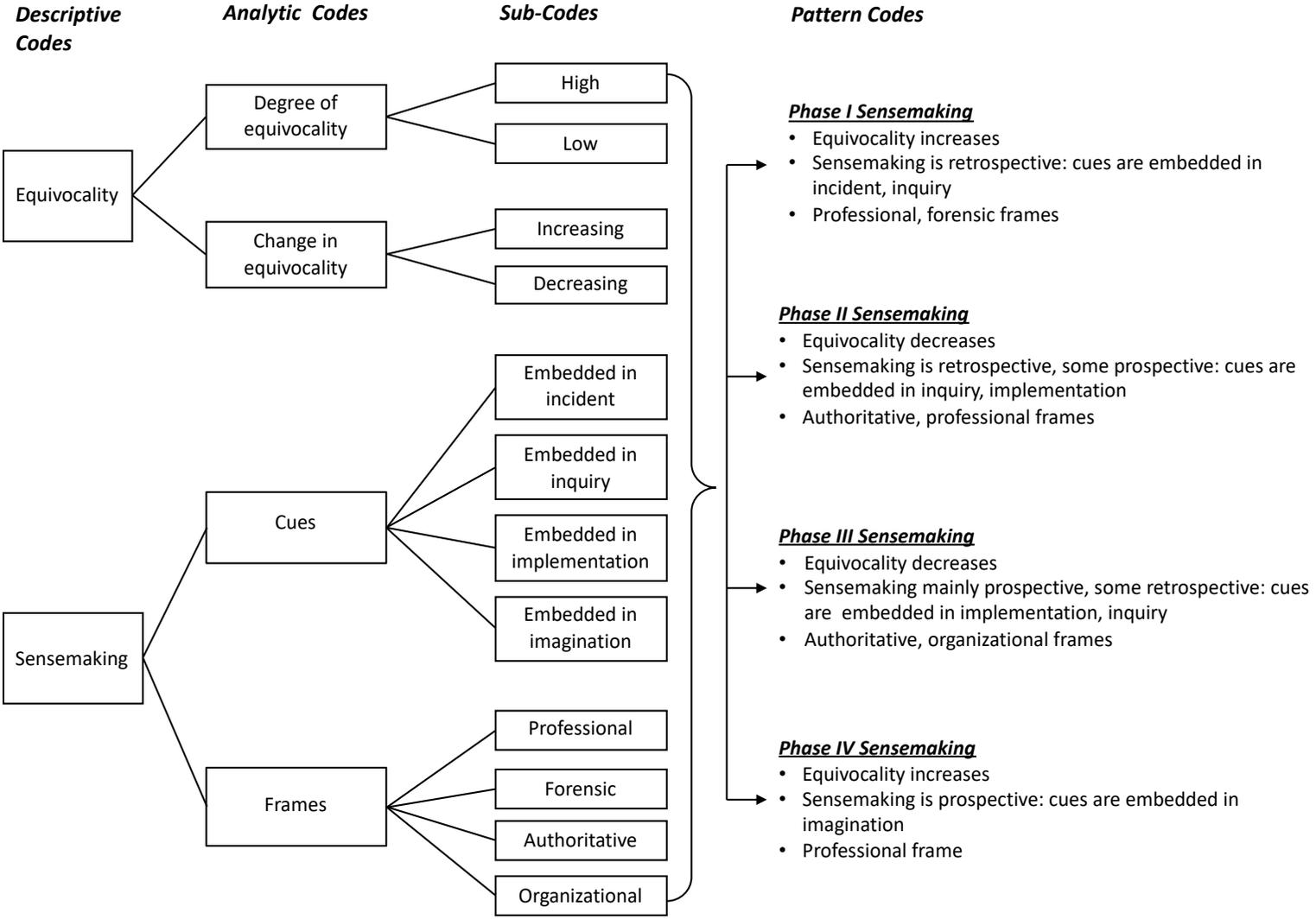
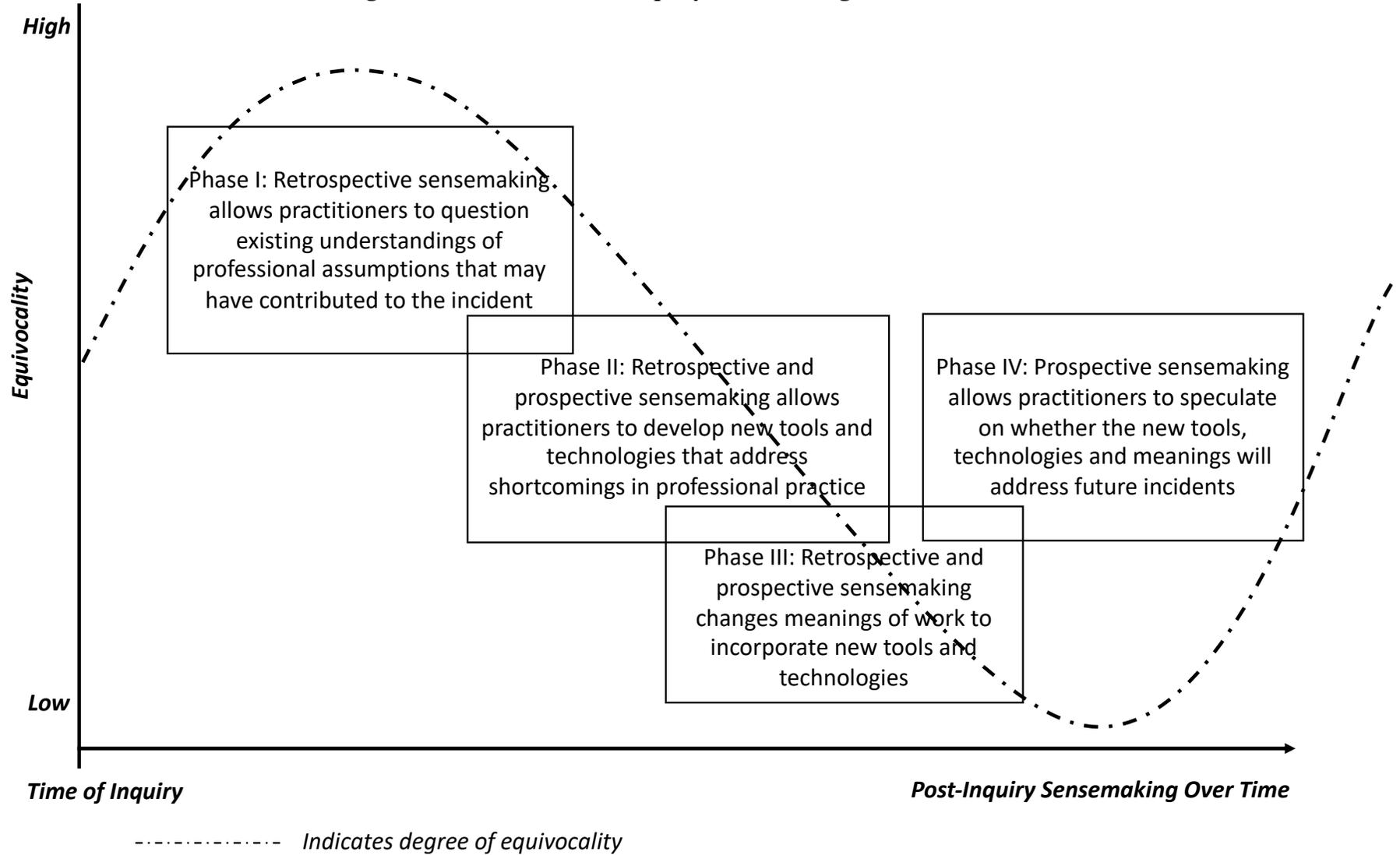


Figure 2: A Model of Post Inquiry Sensemaking



Biographies

Graham Dwyer is a lecturer in social change and leadership at the Centre for Social Impact, Swinburne University of Technology, Australia. His research interests centre on issues of sensemaking, learning and change in emergency management organizations.

Cynthia Hardy is a Laureate Professor at the University of Melbourne and Professor at Cardiff Business School. Her research interests revolve around discourse, power and risk. She has published over 60 journal articles and 10 books, including the *Handbook of Organization Studies*, which won the George R. Terry Book Award, and the *Handbook of Organizational Discourse*, which won Outstanding Book at the National Communication Association. She is co-founder of the International Centre for Research in Organizational Discourse, Strategy and Change, and was recently awarded the Trailblazer of the Year Award by the OMT division of the Academy of Management.

Steve Maguire is a Professor of Strategy, Innovation & Entrepreneurship and Fellow of Multidisciplinary Innovation at the University of Sydney Business School. His research focuses on technological and institutional change driven by the emergence of novel risks to human health and the environment. He has published over forty peer-reviewed articles, chapters, and conference proceedings, as well as four edited volumes. His scholarship has earned numerous awards and distinctions, including the 2014 Page Prize for Integration of Sustainability Issues into Business Curricula, and the 2010 Greif Research Impact Award.