Struggling to make sense of it all: The emotional process of sensemaking following an extreme incident

Graham Dwyer iD
Swinburne University of Technology, Australia

Cynthia Hardy
University of Melbourne, Australia

Haridimos Tsoukas
University of Cyprus, Cyprus and University of Warwick, UK

Abstract
Organizations operating in extreme contexts regularly face dangerous incidents they can neither prevent nor easily control. In such circumstances, successful sensemaking can mean the difference between life and death. But what happens afterwards? Our study of emergency management practitioners following a major bushfire reveals a process of post-incident sensemaking during which practitioners continue to make sense of the incident after it ends, during the subsequent public inquiry, and as they try to implement the inquiry's recommendations. Different varieties of sensemaking arise during this process as practitioners rely on different forms of coping to develop and share new understandings, which not only make sense of the original incident, but also enable changes to help the organization deal with future incidents. Our study also shows that practitioners experience a range of emotions during this process, some of which inhibit sensemaking while others – particularly different forms of anxiety – can facilitate it. Our study makes an important empirical contribution to recent theoretical

Corresponding author:
Graham Dwyer, Centre for Social Impact, Swinburne University of Technology, Hawthorn Campus, 26 John Street, AGSE Building, Hawthorn, VIC 3122, Australia.
Email: grahamdwyer@swin.edu.au

work on varieties of sensemaking and provides new insights into the complex role of emotions in sensemaking in extreme contexts.

Keywords

There has been a growing interest in how organizations address the extraordinary demands placed on them in extreme contexts – where crises and disasters are common (Hällgren et al., 2018; Maynard et al., 2018). These incidents are impossible to prevent, difficult to manage, and can have significant negative consequences for the individuals who have to deal with them (Bell et al., 2018; Hannah et al., 2009). In particular, individuals often lose their ability to make sense of what is occurring (Weick, 1993). Accordingly, the sensemaking literature has been interested in how some individuals manage to make sense of extreme incidents, despite the existence of confusion and ambiguity that interrupts routines, breaches expectations and defies interpretation (e.g., Weick, 2003, 2010). This body of work defines sensemaking as the social process whereby 'people act their way to sense' (Weick, 2009: 130) – that is, how they attend to and bracket clues in their environment in order to create meaning and enact order (Maitlis and Christianson, 2014; Weick, 2001). Restoring sense in the face of volatile and dangerous circumstances to create a plausible understanding of what is happening can mean the difference between life and death (Weick et al., 2005).

But what happens after the incident? Typically, incidents are followed by some kind of public inquiry (Brown, 2004, 2005; Gephart, 1993) or internal review (Catino and Patriotta, 2013; Ron et al., 2006) that holds individuals to account for their actions and makes recommendations for addressing future incidents, which may require further sensemaking (Dwyer and Hardy, 2016; Dwyer et al., 2021). Additionally, implementing inquiry recommendations often involves organizational change, which has also been found to involve sensemaking (Balogun and Johnson, 2004; Lüscher and Lewis, 2008). In other words, organizational members not only have to deal with extreme incidents as they unfold, but they also have to deal with what follows from them.

There is, however, little empirical research on how individuals engage in ongoing sensemaking following an extreme incident. Most studies focus on responses to the incident while it unfolds: 'What is the story here?' 'What should I do now?' (Weick, 2001: 462; Weick et al., 2005: 410). We know relatively little about how practitioners involved in an extreme incident continue to make sense of it after its occurrence, what form such sensemaking takes, and how it varies over time. There is some research on 'second-order sensemaking' in public inquiries (Sandberg and Tsoukas, 2015), but usually from the perspective of those in charge of the inquiry, not the practitioners who experienced the incident and are required to appear before it. Similarly, few studies explore the role of emotions in post-incident sensemaking. Researchers are aware that extreme incidents evoke strong emotions (Weick, 1993),

but we know little about whether they linger afterwards and, if they do, how they affect sensemaking.

To explore post-incident sensemaking, we conducted an exploratory study of emergency management practitioners following the Black Saturday bushfires, which occurred on 7 February 2009 in Victoria, Australia. These practitioners operate in an extreme context – bushfires are inevitable in the Australian landscape and are becoming more intense and more frequent with climate change. They are highly dangerous incidents that are difficult to contain and often lead to the loss of life and property. Black Saturday was the country's worst natural disaster because of the severity of the fires and the damage they caused. It was followed by the Victorian Bushfires Royal Commission, a high-profile, public inquiry set up to explore the causes of the fires and make recommendations for changes in Victoria's emergency management organizations. The Commission made 67 recommendations that emergency management practitioners were required to implement in their organizations.

Our study shows that sensemaking does not stop when the incident ends. Rather, it continues as practitioners continue to try to make sense of the incident in its immediate aftermath, as they engage with the subsequent inquiry, and as they implement its recommendations. We found that sensemaking varies during this process as practitioners used different forms of coping to reflect on and engage with their situated circumstances. We also discovered that post-incident sensemaking is associated with different emotions, which had a range of effects. Of particular interest was anxiety, which manifested itself in different ways depending on whether it was associated with the aftermath of the incident, the inquiry or implementation and that facilitated sensemaking. Other emotions – fear, sadness, anger and apathy – were associated with individual and/or organizational paralysis. These findings contribute to the recent literature on varieties of sensemaking, particularly the work that uses phenomenology to identify different forms of coping (e.g., Guiette and Vandenbempt, 2016; Sandberg and Tsoukas, 2020). This work has so far been primarily theoretical – our study provides important empirically grounded insights. It also contributes to a better understanding of how emotions affect post-incident sensemaking in different ways.

Theoretical background

In this section, we examine two recent developments in the literature: one that suggests there are different varieties of sensemaking and one that explores the role of emotions in sensemaking.

Varieties of sensemaking

Sensemaking refers to 'processes of meaning construction whereby people interpret events and issues within and outside of their organizations that are somehow surprising, complex, or confusing to them' (Cornelissen, 2012: 118). Put differently, sensemaking is an ongoing, social process as individuals engage in 'talk, discourse and conversation' (Weick, 1995: 41; see also Gephart, 1993: 1469) to create shared, plausible meanings that make sense of their environment when existing meanings break down (Maitlis,

2005). Sensemaking allows individuals to create and maintain an intersubjective world as they 'interpret their environment in and through interactions with others, constructing accounts that allow them to comprehend the world and act collectively' (Maitlis, 2005: 21; see also Gephart et al., 2010: 284–285).

Studies have shown that sensemaking occurs in different settings, such as during an incident (Colville et al., 2013; Weick, 1990, 1993), in and after inquiries (Brown, 2004; Dwyer et al., 2021; Gephart, 1993), as well as during organizational change projects (Balogun and Johnson, 2004; Lüscher and Lewis, 2008). Not surprisingly then, researchers have suggested that rather than a singular, uniform process, sensemaking can take a range of different forms (Sandberg and Tsoukas, 2020). A recent stream of mainly theoretical research has explored different forms of sensemaking through phenomenology. It suggests that the way that people make sense is grounded in different forms of coping – that is, different ways of engaging with their situated circumstances (Guiette and Vandenbempt, 2016; Holt and Cornelissen, 2014; Sandberg and Tsoukas, 2015, 2020). For phenomenologically inclined scholars of sensemaking, coping is important since making sense is not seen as a merely cognitive activity whereby the sensemaker stands alone facing the world. Rather, he or she is already engaged in – entwined with – the world, aspects of which s/he seeks to make sense of (Rouse, 2000: 12; Wrathall, 2014: 3). A teacher, for example, absorbed in teaching makes different sense of it as an activity compared with when teaching is interrupted by, say, a PowerPoint failure (Sandberg and Tsoukas, 2011: 343). The teacher then is no longer absorbed in their activity but starts paying deliberate attention to it in order to restore order and, accordingly, their sensemaking shifts from practical to contextual (Sandberg and Tsoukas, 2020: 10, 11). Critically, therefore, different forms of coping influence how sense is made of a particular situation (Chia and Holt, 2006; Guiette and Vandenbempt, 2016; Sandberg and Tsoukas, 2020).

It has been suggested that, much of the time, sensemaking is immanent (Sandberg and Tsoukas, 2020) – that is, it is based on 'absorbed coping' (Dreyfus, 1995: 69; Sandberg and Tsoukas, 2011: 344; 2020: 5) (also referred to as 'skilful coping' or 'practical coping') as actors spontaneously engage with the situations in which they find themselves (Rouse, 2000; Wrathall, 2014). In immanent sensemaking, action is habitual, ongoing and non-deliberate as practitioners make sense of their work without necessarily realizing it (e.g., Sandberg and Tsoukas, 2020; Yakhlef and Essén, 2013). Actors are immersed in, and tacitly aware of, their 'practice world' (Sandberg and Tsoukas, 2020: 5) – the relational, purposive ensemble of people, objects and tools, that gives meaning to what they do and who they are (Spinosa et al., 1997). Immanent sensemaking amounts to a 'total immersion and unintentional absorption in the world prior to any deliberate action and mental presentation' (Guiette and Vandenbempt, 2016: 87). By virtue of being involved in their practice world, individuals spontaneously grasp and respond to an evolving situation, without explicitly forming intentions about it (Yanow and Tsoukas, 2009).

In the event that absorbed coping is interrupted or fails, individuals are forced to start paying conscious attention to what they do as they become aware that some activities have become problematic. Individuals then are forced to question what is happening (Weick, 1993). The inability to smoothly perform routine activities causes

individuals to survey their circumstances and assess problematic activities while still in the midst of them. As individuals try to make sense and restore order in the light of rapidly evolving conditions, they start to engage more deliberately in sensemaking (Colville et al., 2013; Maitlis and Christianson, 2014). In this situation, sensemaking is a reaction to a disruption, where anomalies unsettle existing understandings, forcing individuals to 'retrospectively make sense of the disrupted activity in order to restore it' (Sandberg and Tsoukas, 2015: S12). Individuals are still involved in their practice world, but they separate themselves from their usual activities in order to analyze them. Coping is 'involved-deliberate' – 'a mode of engagement that involves both immersion in practice and deliberation on how it is carried out' (Sandberg and Tsoukas, 2011: 344).

Over time, individuals may shift to 'detached-deliberate' coping as they start to engage with the incident as subjects looking deliberately at objects from the 'outside' (Sandberg and Tsoukas, 2015: 5). Actors are no longer directly or immediately involved in the incident or their practice world but are distanced – assuming the role of a 'reflective observer who self-consciously stands back and intentionally assigns identities, meanings, functions and causes both to him/herself and to phenomena around them' (Chia and Holt, 2006: 641–642). The de-situated properties of the organization, rather than immediate practical concerns, are considered when assessing the problematic activities (Guiette and Vandenbempt, 2016; Sandberg and Tsoukas, 2015) as individuals seek to 'comprehend the underlying mechanisms involved' by identifying properties, patterns, and causal relationships (Yanow and Tsoukas, 2009: 1352).

Another way of making sense of an incident and assessing problematic activities is through public and internal inquiries (Brown, 2004; Gephart, 1993). Sensemaking now takes place in a different setting – a practice world with its own purpose and involving actors who were not directly involved in the incident under investigation (Sandberg and Tsoukas, 2020). In the case of public inquiries, actors might include judges chosen by politicians to lead the inquiry; lawyers appointed to support them; and academics called to appear as expert witnesses. In the case of internal investigations, senior managers and specialists from elsewhere in the organization typically investigate those directly involved in an incident. These disengaged actors make spectatorial sense of the incident by identifying the regularities and causal mechanisms associated with the incident. The problematic activity is 'abstracted from its original context, reconstructed, and interpreted within the practical concerns of another practice world' (Sandberg and Tsoukas, 2020: 15). Coping is 'theoretical' insofar as individuals engage with the situation by examining it from the vantage point of another practice world (Sandberg and Tsoukas, 2020: 9) and with the aim of deriving general lessons and making recommendations for improving practice (see Hardy and Maguire, 2016).

The varieties of sensemaking described here and the forms of coping on which they are based have, so far, received mainly theoretical attention – they have not been the subject of much empirical study. Moreover, in focusing on individual episodes of sensemaking – during a particular incident, a specific inquiry or a distinct organizational change project, researchers have been unable to explore if post-incident sensemaking by practitioners who were involved in the original incident changes over time. This is the gap that our study helps fill.

Emotions and sensemaking

It has been argued that emotions are an important, albeit under-researched, aspect of sensemaking (Steigenberger, 2015; Vuori and Virtaharju, 2012). Maitlis and Christianson (2014: 100) note that 'emotions are increasingly understood to be a part of the sensemaking process, influencing whether sensemaking occurs, the form it takes, when it concludes, and what it accomplishes.' It seems likely that emotions would play an important role in post-incident sensemaking, insofar as extreme incidents give rise to emotions such as anxiety, fear and panic (Catino and Patriotta, 2013; Cornelissen et al., 2014; Maitlis and Sonenshein, 2010). Moreover, these intense emotions may persist after the incident that caused them.

One problem with studying emotions is the lack of agreement concerning the role they play in sensemaking. Some researchers argue that emotions facilitate it by, for example, motivating individuals to engage in sensemaking by increasing their psychological resources and energy, broadening their scope of attention, making them more open to alternative perspectives, and enhancing their thought-action repertoires (Helpap and Bekmeier-Feuerhahn, 2016; Kataria et al., 2018; Maitlis et al., 2013; Steigenberger, 2015). Emotions may also act as cues that stimulate sensemaking, prompting questions and a willingness to act, as well as leading to simplicity of action that prevents paralysis when complexity and equivocality are overwhelming (Colville et al., 2012; Heaphy, 2017; Maitlis and Sonenshein, 2010; Vuori and Virtaharju, 2012). However, other researchers have suggested that emotions hinder sensemaking by consuming cognitive capacity, detracting from the ability to attend to relevant cues and/or causing the 'wrong' sense to be made (Cornelissen et al., 2014; Heaphy, 2017; Weick, 1993). Emotions are also argued to divert attention away from task-related activities and result in the failure to act collectively (Catino and Patriotta, 2013; Maitlis and Sonenshein, 2010).

There is, then, a lack of agreement regarding the role of emotions in sensemaking. An example of such inconclusiveness can be seen in the case of anxiety, which often occurs in relation to sensemaking (Steigenberger, 2015). In the first instance, anxiety has been defined in radically different ways. Sometimes, it is defined in relatively low-key terms, such as concern and worry that arise when something that was previously familiar becomes contested. 'Beliefs, values and norms long since agreed upon and enacted are suddenly made something that should become a source of discussions and reflection' (Styhre et al., 2006: 1297). At other times, anxiety is associated with intense shock and alarm (Knights and Clarke, 2018). Weick (1993, 2010) refers to such situations as 'cosmology episodes' (see Orton and O'Grady, 2016), which occur when people suddenly feel that the universe is no longer a rational, orderly system. A cosmology episode is:

> . . .the opposite of a déjà vu experience . . . [where] everything suddenly feels familiar, recognizable. By contrast, in a cosmology episode, everything seems strange. A person feels like he has never been here before, has no idea of where he is, and has no idea who can help him. An inevitable state of panic ensues, and the individual becomes more and more anxious until he finds it almost impossible to make sense of what is happening to him. (Weick, 1993: 633–634)

In addition to different definitions of anxiety, studies of its effects are often contradictory. Barton and Kahn (2019: 1412) refer to anxiety as a 'generalized effect of negative

emotions' that disrupts connections among actors and undermines coordination. It has also been associated with a reduced willingness to act, defensive maneuvers and avoidance behaviour (Brooks and Schweitzer, 2011; Fischer, 2012; Steigenberger, 2015). In contrast, other studies link anxiety to improved performance, creativity and novelty (Cheng and McCarthy, 2018; To et al., 2015). Existential phenomenological treatments of anxiety emphasize its potential creativity. Heidegger (1962) argues that it is an 'extraordinary' emotion because it makes visible future possibilities that would otherwise remain hidden (Boedeker, 2005). So, although anxiety caused by a crisis may initially render the world meaningless, it does not blind individuals but, rather, it allows them to 'see', understand, and act on their predicament differently (Elpidorou and Freeman, 2015; Segal, 2010). Anxiety 'brings one into the mood for a possible resolution . . . [it] holds the moment of vision at the ready' (Heidegger, 1962: 394) and, in so doing, leads to new understandings. In other words, anxiety is seen as playing two very different roles: it 'paralyses and makes us empty-headed' and it can impel us 'toward action, coping, and resilience' (Moxnes, 2018: 105). Studies have found that other emotions, such as anger, fear and sadness, can also have both functional and dysfunctional effects (Connelly and Turner, 2018; Lindebaum and Jordan, 2012; Lindebaum et al., 2018).

In conclusion, it seems likely that emotions play an important role in post-incident sensemaking given the nature of extreme events. Yet the existing literature is inconclusive regarding both the relationship between emotions and sensemaking – it is not clear whether they enhance or hinder it – and the effects of individual emotions. Accordingly, our study also seeks to explore the role of emotions in post-incident sensemaking.

Methods

To explore these questions, we examine a case study of the events following the Black Saturday bushfires that occurred in Victoria, Australia on 7 February 2009. The fires prompted a Royal Commission whose recommendations led to significant changes being implemented in the State's emergency services organizations. We selected it because the Black Saturday bushfires was an extreme event that led to an inquiry and, subsequently, the implementation of the inquiry's recommendations. Black Saturday also had an enormous emotional impact. As such, the case study offered an opportunity to learn more about different forms of sensemaking following an incident, as well as about the role played by emotions.

The case study

The Black Saturday fires were Australia's worst ever natural disaster (Griffiths, 2010). Soaring temperatures, dry undergrowth, gusting winds, lightning strikes and arson attacks led to a firestorm that burned out of control, despite the efforts of over 4000 firefighters. The fires claimed 173 lives and resulted in an estimated $4 billion worth of damage to homes, businesses and community (also see Shepherd and Williams, 2014).

Two days after the fires, the Premier of Victoria established a Royal Commission – the most powerful form of public inquiry in Australia – to investigate the causes of the fires and recommend changes to avoid such incidents in the future. Officially referred to

as the Victorian Bushfires Royal Commission (VBRC), it commenced work on 16 February 2009. Over the following year, the Commission considered evidence from over 400 witnesses, including members of the public, experts and emergency management practitioners. Led by three independent Commissioners who had statutory powers to solicit information under oath from witnesses, the Commission's final report was published on 31 July 2010 (VBRC, 2010).

The report contained 67 recommendations, ranging from new warning systems, organizational restructuring and new building standards. Victoria's emergency management organizations were then charged with making the changes needed to implement them. An implementation monitor was set up to assess over 300 implementation actions. By 2016, the vast majority had been completed and only two actions remained open (IGEM, 2016).

Data collection and analysis

In 2014, the first author conducted 62 interviews with practitioners who worked for emergency management organizations involved in the Black Saturday bushfires. Interviewees included 20 senior managers, 21 middle managers and 21 specialists (such as information officers, planning officers and operational firefighters) who had been involved in the Black Saturday fires, the Royal Commission, and the implementation of the recommendations. Interviewees were identified as a result of being named in media and inquiry documents, through their formal responsibilities, and through the personal networks of the first author. Interviews took place in individuals' offices, lasted between 30 and 90 minutes and resulted in 65 hours of interview recordings that were fully transcribed. Interviewees were asked semi-structured questions about the lead up to Black Saturday, the day itself, and their reactions to it. They were questioned about the Royal Commission – whether they appeared before it and/or were responsible for preparing for it – and how they felt about the process. They were also asked about the Commission's report, what it meant for their organization and their experiences of implementing its recommendations.

In terms of data analysis, the aim was to move iteratively between the literature and the data in order to elaborate concepts from the data inductively, provide a higher level of abstraction, and then trace relationships (see Catino and Patriotta, 2013; Dwyer et al., 2021). Figure 1 summarizes our coding approach.

We started by examining the interviews for evidence of post-incident sensemaking following Black Saturday. To do so, we inferred from retrospective accounts by interviewees (see van der Giessen et al., 2021; Weiser, 2021) as to whether practitioners had engaged in efforts to make sense of their situation in the aftermath of the incident, at the time of the inquiry, and during implementation. We used the theoretical literature to distill key elements of sensemaking: (a) a response to confusion and uncertainty (see Dwyer and Hardy, 2016; Dwyer et al., 2021); (b) those that occurred through conversational and social practices (see Brown et al., 2008; Klarin and Sharmelly, 2021; Maclean et al., 2012); and (c) which led to the creation of new, shared understandings that allowed practitioners to comprehend their environment (Cherneski, 2021; Hay et al., 2021). As we show in our findings, interviewees
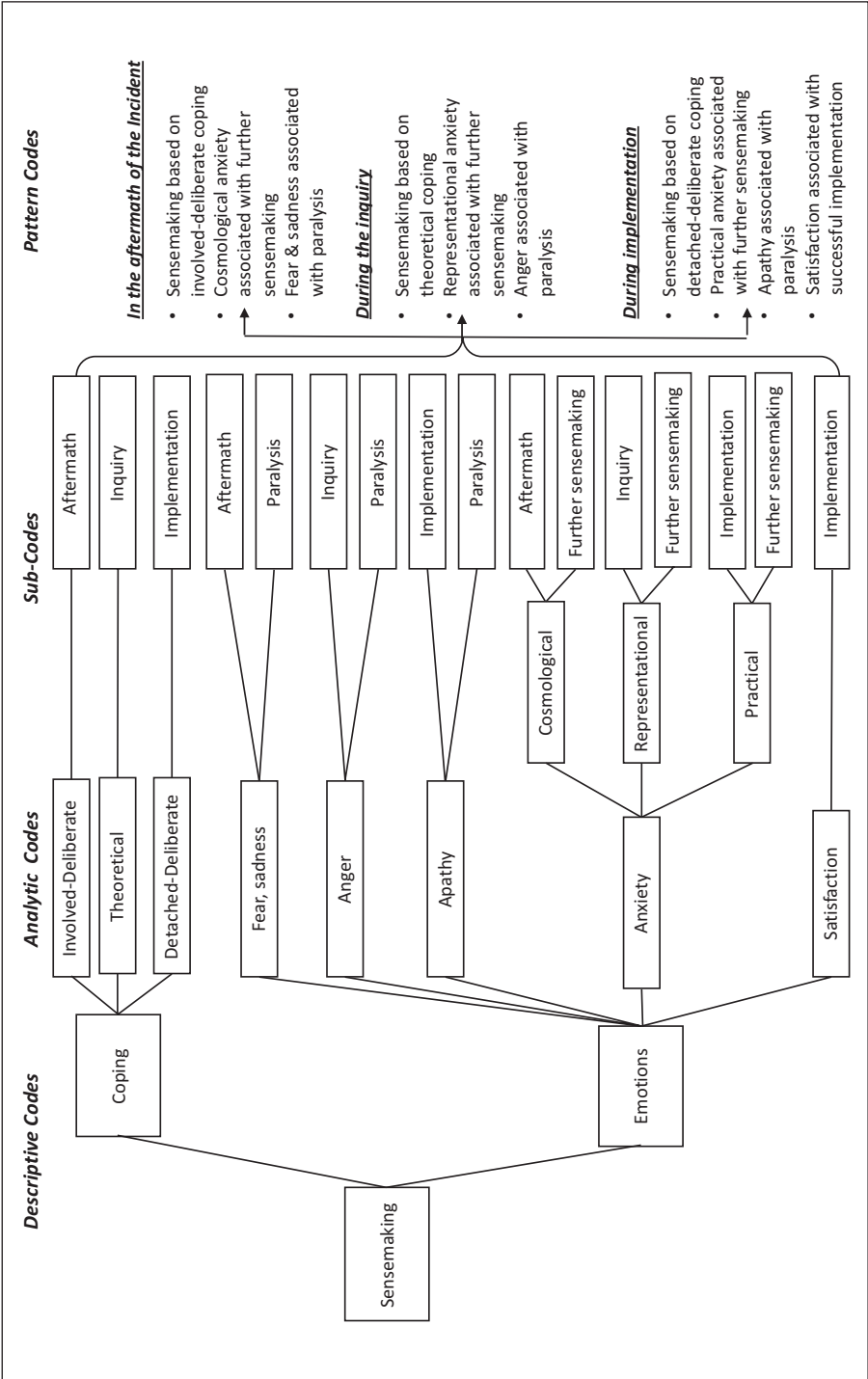
Descriptive Codes

Sensemaking

Coping

Emotions

Analytic Codes

Involved-Deliberate

Theoretical

Detached-Deliberate

Fear, sadness

Anger

Apathy

Cosmological

Representational

Practical

Anxiety

Satisfaction

Sub-Codes

Aftermath

Inquiry

Implementation

Aftermath

Paralysis

Inquiry

Paralysis

Implementation

Paralysis

Aftermath

Further sensemaking

Inquiry

Further sensemaking

Implementation

Further sensemaking

Implementation

Pattern Codes

In the aftermath of the Incident

• Sensemaking based on involved-deliberate coping
• Cosmological anxiety associated with further sensemaking
• Fear & sadness associated with paralysis

During the inquiry

• Sensemaking based on theoretical coping
• Representational anxiety associated with further sensemaking
• Anger associated with paralysis

During implementation

• Sensemaking based on detached-deliberate coping
• Practical anxiety associated with further sensemaking
• Apathy associated with paralysis
• Satisfaction associated with successful implementation

Figure 1. Summary of coding.

indicated that post-incident sensemaking was an ongoing process that continued in the aftermath of the incident, through the inquiry to the implementation of the inquiry's recommendations.

In the second stage of analysis, we discerned whether the nature of post-incident sensemaking varied in terms of the form of coping on which it was based. We developed themes based on the literature (see Hayward and Tuckey, 2011) pertaining to the different forms of coping and then looked for evidence of them in the interviews (see Table 1). Interviewees indicated that, in the immediate aftermath of the incident, they had deliberated on their recent experiences and shared representations of problematic activities that had occurred during it by reflecting 'on action' rather than 'in action.' We inferred that sensemaking during this period had been based on involved-deliberate coping, as a result of which practitioners developed new, shared understandings of what had gone wrong on Black Saturday. During the inquiry, interviewees indicated that they had distanced themselves from the incident and started to look at problematic activities more abstractly by reflecting on the deliberations of the Royal Commission. We inferred that sensemaking during this period had been based on theoretical coping, as a result of which practitioners developed new, shared understandings of the changes needed in firefighting practices to cope with extreme weather conditions, such as those on Black Saturday. During implementation, interviewees indicated that their reflections on problematic activities had become more focused on organizational concerns. We inferred that sensemaking during this period had been based on detached-deliberate coping, as a result of which practitioners developed new, shared understandings of the organizational changes that would support new firefighting practices needed in extreme weather conditions.

In the third phase of analysis, we examined the transcripts to identify emotions. Our interest was in expressed emotion (see Hayward and Tuckey, 2011; Zietsma and Toubiana, 2018) rather than affective states, in keeping with other studies of sensemaking (Catino and Patriotta, 2013; Schabram and Maitlis, 2017). We identified instances in the transcripts when interviewees used particularly emotive language and/or had displayed strong emotion during the interview. We drew on the literature to guide the identification of specific emotions but, in line with interpretative and discursive approaches (Ahuja et al., 2019; Coupland et al., 2008; Sieben, 2007), we relied on individuals' own accounts of their emotional experiences. We then collapsed categories to derive a parsimonious set of emotions that, we felt, best described interviewees' accounts (see Maitlis and Ozcelik, 2004).

We found evidence of fear, sadness, anger, apathy and satisfaction. In some cases, interviewees used the explicit term; in others, the talk corresponded to generally recognized descriptions of these emotions (see Table 2). We then explored the transcripts further to investigate the repertoire of language use associated with the talk about these emotions (see Coupland et al., 2008). We found that interviewees associated *fear* and *sadness* with the Black Saturday incident and its immediate aftermath. They linked *anger* to the inquiry and connected *apathy* and *satisfaction* to implementation. Interviewees also gave accounts of feeling worried and concerned, which we label of *anxiety*, which arises when something that was previously familiar loses its meaning (see Styhre et al., 2006).

Table 1. Analysis of sensemaking based on different forms of coping.

Form of coping	Illustrative statement from interviews	Defining features	Outcomes
Sensemaking based on involved-deliberate coping: The problematic activity is reflected upon using 'a mode of engagement that involves both immersion in practice and deliberation on how it is carried out' (Sandberg and Tsoukas, 2011: 344). Individuals share representations of an external reality and reflection occurs 'on action' rather than 'in action' (e.g., Maitlis and Christianson, 2014; Sandberg and Tsoukas, 2020; Weick et al., 2005).	'Well, we were going okay up until lunchtime [on Black Saturday] but then it went badly wrong. There was arsonists and failure of powerlines which meant tinderbox areas just went up in flames in a matter of seconds. We just couldn't get or receive information because all calls were being routed into the State control centre. Something which never happened before. It was like all the things that were wrong with operational coordination came home to roost. Our systems hadn't been modernized and different agencies were basically doing things their own way.' (Assistant Chief Officer 1)	Linked to the immediate aftermath as interviewees talk about needing to make sense of confusion caused by Black Saturday by reflecting on their experiences of it in conversations with colleagues	Practitioners indicated they developed new, shared understandings of what had happened during the Black Saturday and what had gone wrong
Sensemaking based on theoretical coping: The problematic activity is 'abstracted from its original context, reconstructed, and interpreted within the practical concerns of another practice world' (Sandberg and Tsoukas, 2020: 15). Individuals who are experientially, spatially, temporally removed from the incident make sense of it from a distance (Sandberg and Tsoukas, 2015; Yanow and Tsoukas, 2009).	'Basically [one organization] had responsibilities and [another organization] had responsibilities and they are different. We managed around that by having arrangements in place, but it meant that on the day, there was no one who was in overall charge . . . it wasn't a good arrangement. If the Royal Commission hadn't said: "Put some arrangement in place with one person in charge, I would have said they would have failed. They had to do something about that, and they did.' (Operations Manager 1)	Linked to the inquiry as interviewees talk about needing to make sense of confusion caused by the Royal Commission's findings by reflecting on its deliberations	Practitioners indicated they developed new, shared understandings of firefighting practices needed in extreme weather conditions
Sensemaking based on detached-deliberate coping: The problematic activity is reflected upon through an engaged form of abstraction that 'generates conceptual sense' as individuals look for 'patterns of relationships, while remaining embedded in their primary practice world' (Sandberg and Tsoukas, 2020: 13). Individuals take properties of the organization into account, rather than immediate practical concerns, as they intentionally assign identities, meanings, functions and causes (e.g., Chia and Holt, 2006; Guiette and Vandenbempt, 2016).	'We've got far more, clearer, expectations around our readiness arrangements . . . So, there's a huge change in what I would describe to you as in our readiness arrangements, separate to our preparedness. I think there's equally a change in our preparedness, so a much greater focus on training, exercising, the strengthening of our multi-agency arrangements . . . wherever you go now it's more strengthened.' (Incident Controller 2)	Linked to implementation as interviewees talk about needing to make sense of the confusion caused by the recommendations by reflecting on the organizational implications	Practitioners indicated they developed new, shared understandings of organizational changes that would support practices needed to defend against future extreme weather conditions

Table 2. Definitions and examples of expressions of emotion.

Type of emotion	Illustrative statement from interviews	Effects of emotion
Fear: accounts of feeling afraid and frightened	'I was a scared of outbreak [of a fire because] . . . it would be impossible to control. The consequences would have been huge. The physical conditions were extreme.' (Brigade Captain 1)	Interviewees talk about fear in a negative way, associate it with the incident and its aftermath, and link it to some form of paralysis
Sadness: accounts of feelings of sorrow, despondency, grief	'I was often told that they [firefighters] were very worried about their local fire chief, who was carrying a lot of sadness, guilt and personal responsibility for people's deaths and so on.' (Organizational Psychologist 1)	Interviewees talk about sadness in a negative way, associate it with the incident and its aftermath, and link it to some form of paralysis
Anger: accounts of indignation, outrage and displeasure	'It made me so angry. They [colleagues] were crucified because they didn't get messages out on time and the information – they couldn't have done any better. But they were absolutely slaughtered by this Royal Commission.' (Senior Fire Officer 1)	Interviewees talk about anger in a negative way, associate it with the inquiry, and link it to some form of paralysis
Apathy: accounts of indifference and scepticism	'There were a number of instances where people didn't want to work in their roles anymore, which created difficulties.' (Logistics Officer 1)	Interviewees talk about apathy in a negative way, associate it with implementation, and link it to some form of paralysis
Satisfaction: accounts of happiness, contentment and confidence	'As we implemented many of its [the Royal Commission's] findings, our confidence and knowledge grew in our ability to deliver changes.' (Fire Planning Officer 1)	Interviewees talk about satisfaction in a positive way and associate it with successful implementation
Anxiety: accounts of worry, concern, shock, alarm and disbelief	'Because so much loss of life happened, I think it was a bit hard to fathom that occurring. There are people, particularly having lost some friends in these fires, [finding it hard] to fathom why it happened and getting your head around it, because it was such a shock, and when you find out that your friends were killed, you think, holy shit.' (Assistant Director 1)	*Cosmological anxiety*: Interviewees talked about anxiety in relation to still being unable to make sense of the fires in their immediate aftermath and associate it with further sensemaking
	'Our people were told you get to tell your story and that story details part of the data that the Royal Commission uses to make findings or make sense of what happened. But the way the Royal Commission was run . . . the people that were involved as witnesses, to a person, all feel victimised through it and unsupported . . . by the system of the Royal Commission and let down.' (Senior Operations Officer 1)	*Representational anxiety*: Interviewees talked about anxiety in relation to the adversarial nature of questioning during the inquiry and not being able to tell their story and associate it with further sensemaking
	'We had very limited recommendations that we were delivering on but even so our task was huge . . . rebuilding and reconstructing is a long task that can't be evaluated in any short term given the scale of the task after the fires.' (Senior Executive 1)	*Practical anxiety*: Interviewees talked about anxiety in relation to confusion over recommendations and not knowing the changes needed to implement them and associate it with further sensemaking

We noted that interviewees talked about anxiety in contrasting ways. We therefore used different terminology to describe the differences. *Cosmological* anxiety is the term we use to describe how interviewees talked about the collapse of meaning immediately following the incident (see Orton and O'Grady, 2016; Weick, 1993). In this case, individuals referred to an intense form of anxiety involving shock, alarm and disbelief that continued after the incident. When interviewees talked about anxiety in the context of the inquiry, they were more likely to express worry and concern at potentially not being allowed to 'tell their story' owing to an inability to control how the inquiry was run. We refer to this form of anxiety as *representational* to reflect the disquiet expressed by interviewees that their views, experiences and knowledge would not be fully represented in the Commission's deliberations. Finally, when practitioners gave accounts of anxiety in relation to implementation, they highlighted feelings of being overwhelmed by confusion over the organizational changes needed to implement the Commission's recommendations and the practicalities of making these changes. Accordingly, we use the term *practical* anxiety. See Table 2.

We then examined the interviews for evidence of the effects of these emotions, exploring them in greater depth to identify patterns in *how* interviewees talked about each emotion. We found that when interviewees talked about fear, sadness, anger and apathy, they often related them to issues such as a reduced willingness to act, employees leaving the organization, organizations not being able to functional, and so forth. We grouped these outcomes under the term *paralysis.* When interviewees expressed satisfaction, it was associated with successful implementation. When interviewees talked about the different forms of anxiety, they tended to talk about how it subsided as they participated in further sensemaking: by being able to understand what had gone wrong on Black Saturday in its aftermath; by being able to share their experiences in the inquiry and contribute to its findings; and being able to make sense of how abstract recommendations could be implemented in their specific organizations. We grouped these outcomes under the heading of *further sensemaking* (see Figure 1).

In the final stage of analysis, we examined the relationships among the various coding categories and identified patterns connecting the period of sensemaking, form of coping and particular emotion (Figure 1 under 'pattern codes'). Sensemaking in the immediate aftermath of Black Saturday was characterized by deliberate coping. The emotions commonly expressed were fear and sadness (linked to paralysis), and cosmological anxiety (associated with further sensemaking). Sensemaking by practitioners during the inquiry was characterized by theoretical coping. The emotions expressed were anger (linked to paralysis) and representational anxiety (associated with further sensemaking). Sensemaking during implementation was characterized by detached coping. The emotions expressed were apathy (linked to paralysis), practical anxiety (associated with further sensemaking) and satisfaction (linked to successful implementation).

Findings: Varieties of sensemaking

Our analysis indicated that practitioners engaged in post-incident sensemaking following Black Saturday during the incident's immediate aftermath, the Royal Commission

inquiry, and the implementation of the latter's recommendations. Each period was initially marked by confusion and uncertainty that, interviewees indicated, prompted them to engage in sensemaking that, in turn, resulted in new, shared understandings. During each of these periods, the nature of sensemaking varied insofar as it was based on a different form of coping, as we explain below.

Sensemaking based on involved-deliberate coping in the aftermath of the incident

Interviewees noted that the extreme conditions associated with Black Saturday resulted in an incident during which normal firefighting practices proved inadequate. As a result, they had faced a situation fraught with confusion and uncertainty that was difficult to make sense of:

> We knew what the forecasts were, [what] the conditions were. [But] you still didn't really know if you were going to cop it or not. (Regional Director 2)

> Then the Black Saturday day came. It was horrific. We were still having trouble with fires from the previous week and the heatwave, so it was getting out of control. (Operations Manager 2)

Interviewees also indicated that sense had not been restored simply by extinguishing the fires: 'It wasn't the end of the story when you woke up on the Sunday' (Executive Director 1).

The enduring confusion and uncertainty prompted practitioners to continue to try to make sense of Black Saturday following the incident. They did so by deliberately discussing their experiences of the incident with colleagues, which allowed them to share mental representations of an external reality: 'The more we talked the more we accepted that there was a need for change' (Community Engagement Manager 1).

Practitioners were obviously no longer 'in' the incident during this period of sensemaking, but they remained involved – the incident was still raw, and memories were intense. By continuing to reflect on their situated experiences of problematic activities with colleagues after the incident, practitioners started to make sense of what had happened and develop new shared understandings of what had gone wrong, as in the following quote where the interviewee indicates that it became 'clear' that the 'systems were overcooked':

> We were trying to get through to State Control and everything was jammed – all phone lines and then the radio reports began to filter through, and it was all really bad news – really bad stuff. It [later] became somewhat clear why we weren't hearing anything or why we couldn't make contact: the systems were overcooked. (Logistics Officer 1)

Similarly, in the following quote, the interviewee indicates how practitioners started to share conclusions about how warning systems needed to change, as using the collective 'we':

> [After Black Saturday, we realized that] we needed to rearrange the warning system, the emergency code red. It led to the emergence of idea that should be saying that it's highly risky

. . . if you stay. We always had it there, but it [Black Saturday] made some things more explicit. (Fire Planning Officer 1)

In sum, interviewees indicated that confusion and uncertainty endured in the aftermath of Black Saturday and, therefore, their sensemaking efforts continued. Their accounts suggest that it was based on *involved-deliberate coping* during this period. Practitioners reflected on their recent experiences of problematic activities with colleagues, which led them to develop shared understandings of what had happened and what had gone wrong during the incident.

Sensemaking based on theoretical coping during the inquiry

The Royal Commission commenced soon after Black Saturday. Interviewees indicated that it created further confusion and uncertainty for practitioners. It was partly a political response to the fires and would undoubtedly create demands for change. It also involved actors who had not been directly involved in the fires – judges, lawyers and experts – with a mandate to make recommendations, that nature of which was, at this point, unknown:

A Royal Commission was always going to be the political thing to do. When I think back to that period it all seems like just a blur. We had come through Black Saturday and you just knew the Royal Commission would demand changes. (Community Engagement Officer 1)

Even preparing for the Commission and briefing those who were to appear before it was not straightforward, as indicated in the quote below:

We spent a lot of our time chasing information . . . And if you go back and have a look at some of the comments about – you know – the map [that the Commission wanted]. Everybody's going, 'Which map?' 'Well, who saw that map?' 'Well, I saw it', 'But I didn't see it.' And so, it was incredibly confusing. They [the Royal Commission] put a lot of importance on a particular document because it couldn't be produced when . . . it wasn't that important. (Logistics Officer 1)

Accordingly, interviewees indicated that sensemaking continued during the inquiry. Sensemaking during this period was different to sensemaking in the immediate aftermath. During the inquiry, practitioners were not simply making sense of Black Saturday, they were also trying to make sense of the Royal Commission and its deliberations. In doing so, they incorporated its insights, expertise and resources into their reflections:

I think the Royal Commission was pretty amazing . . . I think it's important to understand though that there were very sharp people working on it and they scared the agencies because [of] their knowledge in two weeks . . . these people could have got across things that it took most people years . . . I think it's important to understand that they commissioned 53 independent pieces of research themselves. (Regional Operations Manager 4)

In this way, practitioners began to move beyond the specifics of the incident to consider what the incident meant for emergency management practice more generally: 'It's about systemic improvement. It's about risk and resilience. It's about capability of response. It's about relief and recovery. It's about all of that, not just about [the immediate] response or otherwise' (Executive Director 2).

By taking into account the concerns of a different practice world (that of the inquiry), practitioners developed new, shared understandings of the practices needed to deal with future incidents caused by extreme weather conditions.

In sum, interviewees indicated that the inquiry caused further confusion and uncertainty and, as a result, sensemaking continued. During this period, it was based on *theoretical coping* as practitioners adopted a position that was removed from their personal experiences. They started to reflect on Black Saturday from within the inquiry's practice world, abstracting the incident from their personal experience of it, drawing on research and analysis by actors who had not been directly involved, and relating the incident to broader issues. In this way, they developed new, shared understandings of new firefighting practices to deal with extreme events.

Sensemaking based on detached-deliberate coping during implementation

The Royal Commission's recommendations were approved by the Victorian government, at which point practitioners became responsible for their implementation. Practitioners indicated that, at the time, they were confused and uncertain as to how to go about this process: 'It [the implementation process] wasn't clear. It had to evolve, and the more people spoke about it the more we were able to get to that "Ah ha, now we understand"' (Regional Manager 2).

Accordingly, the inquiry's recommendations led to continued sensemaking: 'The Royal Commission is a snapshot in time, and they brought together their experts that they thought were the main experts at the time, although we know that that knowledge continued to evolve [in the emergency management organizations]' (Community Engagement Manager 1).

Practitioners stated that this sensemaking took the form of deliberate initiatives to bring people together to debate what the recommendations meant for their respective organizations:

> We had 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 [the recommendation] required. (Incident Controller 2)

> I can say from my experience, surprisingly, the hardest, the back-breaking work was that work [on the recommendations] that we did behind closed doors, getting it all written up, you know, on pieces of paper, and around the wall. Trying to line it all up, make sure it didn't overlap, and there weren't gaps. (Director 3)

Practitioners indicated that to make sense of the recommendations, they shifted their discussions back to their own practice world to take organizational properties and

relationships into account. For example, the interviewee quoted below starts to assign functions and identities to organizational units, as well as identify how they should be coordinated in order to implement recommendations for improving information flows:

> The other part [of implementing recommendations] is establishing the regional command control arrangements. So, that's really [working] jointly together with [another organization] . . . side by side . . . Then there's the day-to-day business stuff about how we're looking to focus that and how we organize . . . [and] all connect in to support the public information officer with the flow of information . . . to the public safety side of things . . . [Previously] the public information officer was underneath Planning and a little bit down the food chain. (Regional Director 2)

In this way, practitioners detached themselves from specific recommendations to reflect on organizational implications, as in the following quote where the interviewee translates a specific recommendation for centralized leadership into a new structure and mandate linking diverse emergency management organizations:

> The operating regime, if you like, of how the services operate together – levels of control and commands – has basically been reformed quite fundamentally. [We now have a] Fire Services Commissioner . . . [as] a single point of leadership and accountability in the emergency arrangements. So, that's been about inoperability, better use of resources, better training, better control, [etc.]. (Brigade Captain 1)

Interviewees indicated that this engaged form of abstraction helped to contextualize the recommendations formulated by the Royal Commission so that they could be implemented:

> I think a lot more people have got a lot more knowledge of expectations and structure . . . The reporting is pretty clear and I think everyone knows who can make decisions. I don't think we'd get caught in some of the positions that we did previously. (Incident Controller 1)

This period of sensemaking also helped practitioners develop new shared meanings about how these organizational changes would support new practices to defend against future extreme weather events:

> We were moving to a new emergency management framework. So how this fire, as one natural hazard, aligns with the flooding landscape . . . we need to have a better understanding of how these [multiple hazards] relate to each other, . . . what that means for people, and better ways of dealing with it, and taking it to another strategic level. (Assistant Director 1)

In sum, interviewees indicated that the inquiry's recommendations caused confusion and uncertainty because it was not clear how to implement them. Accordingly, sensemaking continued during this period. Accounts suggest that it was based on *detached-deliberate coping* as practitioners sought to contextualize abstract recommendations by taking wider organizational properties and relationships into account. By conceptualizing the organizational implications, practitioners developed new,

shared understandings of changes that would support the new practices needed to defend against future extreme weather conditions.

Emotions

In this section, we present our findings concerning the role that emotions played during the post-incident sensemaking process.

Emotions in the aftermath of the incident

Not surprisingly, practitioners indicated that they had experienced *fear* during Black Saturday as they realized they could not control the fire. These feelings of fear continued after the incident, as practitioners returned to work in the days after Black Saturday:

> I felt fearful walking in there feeling like that I had – I don't know, almost like I had done something wrong even though I had done everything I could that was right. I still felt like I had done something wrong. (Project Officer 1)

Another emotion that practitioners said they experienced was profound *sadness* at the loss of life and destruction to communities: 'I don't think there is anything more profoundly sad than to be confronted by the facts of what happened on Black Saturday' (Senior Executive 1).

The tragic loss of life was particularly poignant because practitioners were members of the same communities as those who had lost their lives – they knew people who had died: 'This is [name of person] – wife – and [name of person] – husband. I knew them . . . It's just really sad that somebody who cared so much for our environment was killed by it' (Assistant Director 1, pointing to a photograph of the couple).

Not surprisingly, the sadness also continued long after the fires were extinguished: 'I remember we went through a pretty structured process of grief [afterwards]' (Community Safety Manager 1).

We also found evidence of anxiety, which we describe as *cosmological* in that it was a continuation of the collapse of meaning that had occurred during the incident. The interviewee quoted below, who had been involved in direct firefighting on Black Saturday, described his feelings as his world collapsed around him on the day of the fires:

> [During the fires], everyone retreated to my house because it was the safest place to be. We stayed there until the fire front went through, before going out to look at the community and it was quite a shock . . . I was surprised by how isolated we were. We didn't really get assistance because there were roadblocks into the area. Communications were down so we were reliant on our own resources until things got organized. I was shocked by it all really. We managed to get email going but there was nothing. Eventually we got through to council. It was so difficult to find out what was happening. We had no way of knowing what the impact was. We worried about friends and family in the area but no way of getting in touch with everyone. We were cut off and isolated. (Regional Operations Manager 2)

He went on to explain how these feelings did not dissipate the following day but, rather, this cosmological anxiety continued after the incident was over:

> The next morning . . . it was so traumatic. You went from thinking that surely people were okay to thinking that a lot of people have died . . . Given that people know the area, you think that people would be okay but, when we saw the trees down blocking the roads with all the cars burnt out and on top of each other, it was clear that people got caught on the road. Everything seemed unreal. I still remember the white goat outside the public toilet alive and well – but it just seemed wrong. There was a fire truck on its side too. So, all of these images you're trying to build into a coherent picture of understanding. (Regional Operations Manager 2)

Emotional effects. To ascertain the effects of these emotions, we explored the interview accounts to see how interviewees talked about them. When talking about fear and sadness, practitioners tended to associate them with some form of paralysis, such as individuals unable to carry out their work:

> I observed a whole lot of PTSD characteristics from a range of colleagues . . . It would pop out in the quirkiest ways . . . people would be very teary, tears at the office, a lot of lethargy. It was hard to motivate people to do things. (Community Safety Manager 1)

> A lot of those people are incredibly traumatized by what they dealt with and what they heard and things like that. We lost some of those people. They went and said, 'I don't want to be involved anymore.' (Logistics Officer 1)

Despite the intensity of their cosmological anxiety, interviewees did not link it to paralysis. Instead, they indicated that it was alleviated as they continued to make sense of the incident and developed new, shared understandings through conversations with colleagues:

> What 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. And the communities must receive warnings and information by multiple channels, not rely just on one source. (Community Engagement Manager 2)

In another example, a practitioner refers to how he and a colleague started to make sense of what had happened on Black Saturday in terms of qualifications for incident controllers. By starting to develop this new understanding, their anxiety subsided as they were able to present specific proposals to the Royal Commission:

> [Following Black Saturday], we [the interviewee and a colleague] talked about incident controller qualifications . . . We put up a model [to the Royal Commission] for what we thought may work . . . and it became part of the recommendations . . . We actually said, 'Well, this a way we think we could fix it.' We were more proactive than just saying, 'Oh we've got a problem, we've got a problem – you come up with the answers, right.' (Deputy Chief Officer 2)

In sum, interviewees regularly referred to feelings of fear and sadness that persisted in the aftermath of Black Saturday. These emotions were typically associated with some form of paralysis, such as individuals being unable to able to carry out their work or leaving the organization. Interviewees also mentioned a cosmological form of anxiety that endured in the aftermath of Black Saturday. However, this anxiety subsided as sensemaking continued and practitioners started to make sense of what had happened.

Emotions during the inquiry

One emotion that practitioners often mentioned when they talked about the Royal Commission's inquiry was *anger*. Sometimes, it resulted from the way they were treated when they appeared in front of the Commission:

> I really didn't get an opportunity to put my role in any kind of context. That's left me angry – a bit of a sour taste in my mouth over the whole thing – and tainted my view, I suppose, of the Royal Commission. (Incident Controller 2)

In other cases, it resulted from observing how colleagues were treated:

> The Royal Commission was a very adversarial process and I think a lot of us were quite angry about that . . . It could have been done in a way which didn't damage so many people, because a lot of these people had already been into incredibly traumatic events. (Logistics Officer 1)

Anger was also bound up with the feeling that the Royal Commission was being used to blame practitioners for the incident: 'The Royal Commission ended up being about prosecution and blame . . . They never looked beyond the day itself that saw that some of the best firefighting you would see anywhere in the world' (Assistant Chief Officer).

Practitioners also indicated that they had experienced anxiety in relation to the inquiry. It took a different form to the anxiety experienced following the incident – we refer to it as *representational* anxiety. It related to practitioners' concerns at not being able to fully tell their stories and explain their experiences to the Commission:

> I remember they [the Royal Commissioners] wanted to study incident control centres . . . but they never spoke to any real key players in that space on the day. So, the scope of their evidence would have been fairly limited, and I don't think they would have got anything worthwhile to help them make their recommendations. (Incident Controller 1)

> They'd go down a line of questioning about a particular event . . . but ignore the whole context of other stuff that was happening as well. They would ask the Incident Controller about what he did to warn the community at Marysville, but they completely ignored everything that was going on around that person, which created a false impression about what was happening. I felt that [by] going down particular paths, the Royal Commission actually missed some of the main points. (Community Safety Manager 1)

Practitioners were worried because, without hearing the full stories of those involved, the Commission would draw flawed conclusions and make inappropriate recommendations:

> If you are involved in emergency management, it's a very, very dynamic environment, and you have to make decisions quickly based on the information you've got. When you get to a Royal Commission stage, they've got months and months to find out the information that was available [but] that you didn't have [on Black Saturday]. (Deputy Chief Officer 2)

Emotional effects. When interviewees talked about anger, they tended to associate it with some form of individual or organizational paralysis. For example, one practitioner indicated he was so angry that he simply 'freaked out': 'The whole experience was just *horrible*. I remember sitting across from the lawyers . . . who said that we shouldn't be surprised if this Royal Commission changed *everything* about emergency management. I was a bit freaked out' (Communications Manager 1).

Another interviewee argued that the adversarial process that caused a lot of anger resulted in practitioners who 'pushed back' or 'clammed up':

> I didn't end up having to be grilled by [the counsel assisting the Royal Commissioners] or others, but I saw some of my very close friends and peers have to go through that, and it's not the ideal having such an adversarial approach where people either push back or clam up and don't share. (Incident Controller 2)

In contrast, when interviewees talked about representational anxiety, they did not link it to paralysis. Instead, interviewees indicated that it was alleviated by further sensemaking. In other words, as practitioners increasingly made sense of Black Saturday by deliberating on, participating in and, most importantly, contributing to the Royal Commission, they came to share new understandings and their anxiety subsided:

> [If people] offer their contribution to input into the review [it] gives us an honest and open appraisal of what actually happened and where they think improvements could be made. So, even in the [Black Saturday] report, [there are examples where] people can see that, 'Ah my comments are reflected in here, de-identified in the report. So, [although] we don't know who has actually made those comments, the point has been made. It's been picked up on – there's a finding and there's a recommendation for implementation. (Firefighter 2)

In sum, in talking about their emotions during the inquiry, many interviewees mentioned their anger at how they and their colleagues were treated. This anger was typically associated with some form of paralysis, such as freaking out, pushing back or clamming up. Interviewees also expressed feeling a representational form of anxiety when they were unable to fully explain their story to the Commission. However, this emotion subsided when practitioners were allowed to contribute to the inquiry's sensemaking by sharing their experiences and insights.

Emotions during implementation

One emotion that interviewees mentioned in relation to implementation was *apathy*. In the following quote, the individual indicates his scepticism about the likelihood of significant changes being made following the inquiry: 'If you miss the window which,

clearly, we have, on a whole lot of stuff what's the point? And that's the problem. . . . The White Paper process was a circus. It just smells like another bureaucracy' (Fire Planning Officer 2).

In other cases, interviewees referred to apathy or complacency on the part of others:

> I feel we've restructured and done things . . . whether they'll make any difference . . . whether these things will make any difference at all to anything at all except for the bottom-line budget, remains to be seen. (Regional Operations Manager 4)

Interviewees also indicated that they experienced a form of *practical anxiety* during implementation. It related to their concerns about not knowing how they were going to translate abstract recommendations into specific organizational changes:

> But the 67 recommendations – the span of the recommendations to me doesn't span [all] the issues that it could have. So, the breadth of the recommendations, and then the shape of the recommendations often wasn't [clear]. It's like, 'Oh, that's curious, you're sort of chipped off a bit of the side of that issue, rather than nailed it.' And, yes, I think there's a whole other discussion around then how agencies and Departments respond to recommendations. You know, what you then do with those recommendations. (Incident Controller 3)

> A lot of the changes is the change you cannot readily see in annual reports, you can't readily see in organizational structures, or even in people's position titles. (Executive Director 1)

Emotional effects. When interviewees talked about apathy, they tended to associate it with some form of individual or organizational paralysis. One interviewee complained it reduced implementation to 'box-ticking.' It meant that commitment to the changes was, at best, half-hearted: 'We, in each of our reports, over the last few years have raised the whole issue of complacency . . . for complacency reasons and other reasons where there has been no committed follow-through' (Director 1).

Interviewees indicated that, at worst, that apathy led to resistance to the changes:

> There is some resistance at the middle management level where there's a sense of emptiness from people who feel that it's just about delivering what the Royal Commission said to the letter of the law and once it's done, that's it. (Communications Manager 1)

In contrast, interviewees tended not to link practical anxiety to paralysis. Instead, they indicated that it was alleviated by further sensemaking. By deliberating on the organizational changes and sharing new understandings about how to implement the recommendations, anxiety subsided:

> It [the Royal Commission] did miss things a lot of things, but it made us look at things. Well, who's in control? Who has the responsibility? It catalyzed things and brought them forwards [so] that we'd need to look at [them]. (Regional Manager 3)

In fact, practitioners gave accounts of satisfaction that they associated with successfully implementing the Royal Commission's recommendations:

I actually welcomed some of the interoperability changes – we needed to get better at working together in incident management teams. (Regional Manager 3)

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)

There have been some absolutely good things that came out of tragedy in the way that we work much more closely together now, and it's a much more coordinated approach. (Emergency Coordination Manager 1)

In sum, when talking about their emotions during implementation, interviewees often mentioned apathy, which was associated with some form of paralysis, such as ticking boxes, resistance or a lack of action. Interviewees also referred to feeling a practical form of anxiety in relation to not knowing how to implement the recommendations. However, this emotion subsided through continued sensemaking and as practitioners developed shared understandings of how to go about implementation. As the organizational changes were successfully implemented, interviewees indicated they experienced feelings of satisfaction.

Varieties of post-incident sensemaking: The role of coping and emotions

Earlier research has shown that sensemaking occurs during extreme incidents (Maitlis and Christianson, 2014). We have shown that it continues long after – including the immediate aftermath, through any inquiry that follows, and then during the implementation of recommendations. Our study also indicates that the nature of sensemaking varies during these periods as different forms of coping are drawn upon to achieve new shared understandings regarding problematic activities. It also shows that different emotions arise during this period that can facilitate or hinder the sensemaking process

Our findings suggest that sensemaking that occurs in the immediate aftermath of an incident will be based on involved-deliberate coping as practitioners reflect on their personal, situated experiences, which are still intense. In doing so, practitioners deliberately reflect on events and they also remain involved – the incident is fresh in their minds, their experiences of it are still raw, and sensemaking is focused on their practices. During this period of sensemaking, practitioners combine deliberation with direct experience to reflect on problematic activities that occurred during the incident. Our study suggests that sensemaking based on this form of coping enables practitioners to develop and share new understandings of what happened and what went wrong during the incident.

Our findings also suggest that emotions such as fear, sadness and cosmological anxiety are likely to be associated with this period of sensemaking. These emotions occur during extreme incidents and it is not surprising that they would linger afterwards. Our findings suggest that fear and sadness are linked to various forms of individual and/or organizational paralysis, such as individuals being unable to carry out their work or organizations losing skilled employees. These emotions therefore appear likely to inhibit

sensemaking as capabilities and resources are lost. On the other hand, cosmological anxiety does not appear necessarily to preclude sensemaking from taking place following the incident. In fact, there may be a reciprocal relationship between the two – individuals who experience cosmological anxiety engage in sensemaking because it alleviates this anxiety. Consequently, it seems plausible to suggest that this form of anxiety may prompt practitioners to try to restore meaning.

Extreme incidents are typically followed by some sort of investigation charged with making formal sense of the incident and producing recommendations, during which practitioners are typically held to account by actors with different backgrounds and concerns. Our findings indicate that practitioners continue to engage in post-incident sensemaking during the inquiry, partly because questions about the incident remain unanswered and partly because the inquiry itself creates confusion and uncertainty. Sensemaking during this period is likely to be based on theoretical coping as practitioners draw on the expertise, resources and information made available during the inquiry to take a more abstract view of the incident. Our study suggests that combining their personal experiences of the incident with abstract information generated in the inquiry helps practitioners to develop and share new understandings of the incident in a wider context.

In our case, interviewees associated the inquiry with anger and representational anxiety. We expect this to be typical of inquiries because they hold individuals to account for their actions and are often seeking someone to blame. Our findings suggest that anger is linked to various forms of individual and/or organizational paralysis such as individuals being unwilling to cooperate or employees resigning or being fired as a result of being blamed. It seems likely, therefore, that this emotion will inhibit sensemaking. On the other hand, representational anxiety does not appear necessarily to preclude sensemaking from taking place. In fact, there may be a reciprocal relationship between the two – individuals who experience representational anxiety engage in sensemaking because it alleviates this anxiety. Consequently, it seems plausible to suggest that this form of anxiety may prompt practitioners to try to restore meaning.

Inquiries typically make recommendations that are handed back to practitioners to implement in their organizations. Our findings suggest that post-incident sensemaking continues during this period because of the confusion caused by the abstract nature of recommendations. This period of sensemaking is likely to be based on detached-deliberate coping as practitioners increasingly distance themselves from their personal experiences of the incident and their immediate practice world and, instead, focus on embedding recommendations in the wider organizational setting. Our study suggests that this contextualized sensemaking helps practitioners to develop new, shared understandings about organizational changes that will help deal with future extreme incidents.

Our study found that implementation was associated with apathy, practical anxiety and satisfaction. Apathy was linked to various forms of individual and/or organizational paralysis, such as box-ticking, resistance and complacency. It therefore seems likely that this emotion will inhibit sensemaking as individuals withdraw from the change process. On the other hand, practical anxiety does not appear necessarily to preclude sensemaking from taking place during implementation. In fact, there may be a reciprocal relationship between the two – individuals who experience practical anxiety engage in sensemaking because it alleviates this anxiety and may even lead to satisfaction. Consequently, it

seems plausible to suggest that this form of anxiety may prompt practitioners to try to restore meaning.

Discussion

Post-incident sensemaking is influenced by practitioners' experiences and emotions of an extreme incident as they strive to understand what it was all about. Our study shows that post-incident sensemaking by practitioners is an ongoing process that continues in the aftermath of the incident, throughout the public inquiry, and during implementation. Practitioners rely on different forms of coping to engage with these different circumstances, resulting in different varieties of sensemaking and leading to new, shared understandings during each of the different phases. Each phase is marked by differences in the emotions experienced by practitioners. Initially, practitioners experience the raw, emotional aftermath of the incident. Then they face the emotional impact of being held to account for what they did during the incident by independent outsiders. Finally, they experience emotions associated with the challenges of making organizational changes to implement the recommendations and prevent future incidents. Thus, the process of practitioner sensemaking initiated and influenced by a particular incident is ongoing, marked by considerable variety in how sense is made, and fraught with emotion – aspects that have not yet been considered in depth through empirical study.

Our study contributes to the theoretical work on varieties of sensemaking and studies of emotions and sensemaking, as well as to organizations in extreme contexts more generally. In particular, it shows how future research could build on our insights.

Future research on varieties of sensemaking

Our empirical findings regarding varieties of sensemaking based on different forms of coping suggest important areas for future research. First, our finding that involved-deliberate coping occurs after the incident suggests that the conceptualization of this form of coping needs to be broadened. Typically, involved-deliberate coping is thought of as occurring during an incident when practitioners face an interruption and, so, deliberately start to make sense of what is going on in order to restore the interrupted activity in situ (Sandberg and Tsoukas, 2020). However, our study suggests it also occurs during post-incident sensemaking. This raises some exciting prospects for future research to explore the bodily and temporal components of sensemaking by examining the aftermath of incidents – as the embodied, in situ sensemaking that occurs during the incident transitions into sensemaking shaped by memories of those experiences, and where the past is inevitably part of the present (see De Rond et al., 2019; Introna, 2019).

Second, our study indicates that practitioners rely on theoretical coping during the inquiry, as has been noted in the case of second-order sensemaking (Sandberg and Tsoukas, 2015). However, studies of sensemaking during public inquiries have tended to focus on spectatorial sensemaking by external adjudicators (see Sandberg and Tsoukas, 2020: 15), who are temporally, spatially and experientially removed from the incident that they are investigating (e.g., Brown, 2004; Gephart, 1993). But practitioners are not spectators – they were participants in the incident and are subjects of the inquiry.

Accordingly, their sensemaking, while still relying on theoretical coping, is likely to differ from the spectatorial sensemaking of other inquiry members – possibly being more holistic and integrative because practitioners also draw on their direct experience of the incident. This suggests the need to move beyond a view of a singular variety of sensemaking by all members of an inquiry. Instead, future research could differentiate sensemaking by practitioners (who are participants in the incident *and* held to account by the inquiry) from those responsible for adjudication and judgement, as well as independent experts and lay witnesses. In each case, the individual occupies a different position in relation to both the incident and the inquiry and, as such, their sensemaking can be expected to differ. Such research would greatly add to our understanding of varieties of sensemaking.

   Third, our study suggests that detached-deliberate coping is the basis of contextual sensemaking by practitioners during implementation, which helps them blend the abstract with the local as they consider the possible ways in which recommendations impact on, and are influenced by, broader organizational arrangements. In this regard, our study builds on the nascent literature on sensemaking during the implementation of inquiry recommendations (Dwyer and Hardy, 2016; Dwyer et al., 2021). Whereas these earlier studies show the importance of frames and cues and transitions from retrospective to prospective sensemaking, our study shows the importance of coping and emotion. Since this area of research is extremely limited, we call for more studies of how practitioners make sense of recommendations when enacting them in particular organizational settings to help us learn more.

Future research on emotions and sensemaking

In relation to the role of emotions in sensemaking, we make a number of contributions particularly with regard to anxiety. We show that this emotion takes a different form at each sensemaking stage. Additionally, rather than being debilitating, our study suggests that it can trigger further sensemaking as it prompts individuals to address the question 'How should I go on?' This aligns with a Heideggerian view of anxiety – the experience of a temporary disconnection from one's commitments, which enables individuals to view themselves as confronting possibilities (Cerbone, 2008). Our study suggests that, at each stage, a particular form of anxiety prompted practitioners to engage in further sensemaking in order to make sense of their experiences. What we do not know are the specific mechanisms through which anxiety generates sensemaking or how sensemaking alleviates anxiety. Does it, for example, elicit particular forms of narratives that enable individuals to tolerate uncertainty, contemplate open-ended possibilities and search for meaning rather than become mired in paralysis? Future research could, then, explore the relationships between anxiety, sensemaking and new understandings in greater detail.

Future research on extreme contexts

In relation to the research on extreme contexts, our study shows that their significance lies not simply in the likelihood that difficult, dangerous incidents will arise, but also in

what follows from those incidents. Inquiries are as much a part of an extreme context as the original incident. Similarly, those who work in these organizations also have to grapple with implementing the recommendations of these inquiries. This calls for more longitudinal studies where researchers explore the overall process, as well as the emotions associated with it. Insofar as our study shows that emotions such as fear, sadness, anger and apathy appear to be linked with paralysis, then part of the success of dealing with an extreme context would appear to lie in avoiding these emotions. Anxiety, on the other hand, demands more nuanced investigation in extreme context research that follows an extreme incident. While some research on extreme contexts suggests that anxiety is damaging (Burke et al., 2018; Golden et al., 2018), our study suggests that it may help individuals find ways of dealing with demanding work environments.

Second, our study suggests that resilience in organizations that deal with extreme incidents – what Orton and O'Grady (2016) refer to as cosmology episodes – is achieved, not so much by avoiding these events, but through 'the rebuilding of a new cosmology after the old cosmology has been disrupted' (p. 227). This occurs as sensemaking by practitioners slowly re-makes meanings over an extended period. Insofar as our study shows that different varieties of sensemaking that arise during this process and how it is affected by different emotions at various points in time, it offers additional insights for researchers interested in extreme contexts.

Our study has a number of limitations. It relies on retrospective interviews conducted some time after the incident and inquiry, as implementation was being completed. The qualitative analysis of retrospective interviews is a common method in sensemaking studies (Brown et al., 2008; Weiser, 2021; van der Giessen et al., 2021). However, they do present some problems. It is, for example, impossible to know whether interviewees are recounting the sense they made at the time or whether they are reporting on 'new' sense made during – or even because of – the interview (see Alvesson, 2011). This is an inherent problem in sensemaking studies that rely on retrospective interviews and can only be addressed by contemporaneous observations and/or accounts of sensemaking in real time. Insofar as our analysis indicated clear patterns across interviews regarding the sense made at specific times, it seems reasonable to conclude that interviewees *did* provide accounts of their previous sensemaking at the time periods under investigation, even if this did not stop them from continuing to make sense of events during the interview.

Retrospective accounts of emotions drawn from interviewees' memories also have limitations. Memories may fade or not match what was felt at the time. Individuals may present accounts of 'acceptable' emotions rather than admitting to how they 'really' felt, or they may elect to talk about certain emotions and not others to portray a particular identity in the interview (see Coupland et al., 2008). Despite these potential biases, we followed Weick (2001) and took interviewees' accounts at face value in order to get a glimpse into the world of practitioners who have to manage extreme events and the challenges that they face.

Acknowledgements

ORCID iD

Graham Dwyer 🆔 https://orcid.org/0000-0003-2574-7760

References

Ahuja S, Heizmann H and Clegg S (2019) Emotions and identity work: Emotions as discursive resources in the constitution of junior professionals' identities. *Human Relations* 72(5): 988–1009.

Alvesson M (2011) *Interpreting Interviews*. London: SAGE.

Balogun J and Johnson G (2004) Organizational restructuring and middle manager sensemaking. *Academy of Management Journal* 47(4): 523–549.

Barton MA and Kahn WA (2019) Group resilience: The place and meaning of relational pauses. *Organization Studies* 40(9): 1409–1429.

Bell ST, Fisher DM, Brown SG, et al. (2018) An approach for conducting actionable research with extreme teams. *Journal of Management* 44(7): 2740–2765.

Boedeker EC (2005) Phenomenology. In Dreyfus HL and Wrathall MA (eds) *A Companion to Heidegger*. Oxford: Blackwell, 156–173.

Brooks W and Schweitzer ME (2011) Can Nervous Nelly negotiate? How anxiety causes negotiators to make low first offers, exit early, and earn less profit. *Organizational Behavior and Human Decision Processes* 115(1): 43–54.

Brown AD (2004) Authoritative sensemaking in a public inquiry report. *Organization Studies* 25(1): 95–112.

Brown AD (2005) Making sense of the collapse of Barings Bank. *Human Relations* 58(12): 1579–1604.

Brown AD, Stacey P and Nandhakumar J (2008) Making sense of sensemaking narratives. *Human Relations* 61(8): 1035–1062.

Burke CS, Shuffler ML and Wiese CW (2018) Examining the behavioural and structural characteristics of team leadership in extreme environments. *Journal of Organizational Behavior* 39(6): 716–730.

Catino M and Patriotta G (2013) Learning from errors: Cognition, emotions and safety culture in the Italian air force. *Organization Studies* 34(4): 437–467.

Cerbone DR (2008) *Heidegger: A Guide for the Perplexed*. New York: Continuum Books.

Cheng BH and McCarthy JM (2018) Understanding the dark and bright sides of anxiety: A theory of workplace anxiety. *Journal of Applied Psychology* 103(5): 537–560.

Cherneski J (2021) Zebras showing their stripes: A critical sense-making study of women CSR leaders. *Qualitative Research in Organizations and Management* 16(3/4): 435–463.

Chia R and Holt R (2006) Strategy as practical coping: A Heideggerian perspective. *Organization Studies* 27(5): 635–655.

Colville I, Brown AD and Pye A (2012) Simplexity: Sensemaking, organizing and storytelling for our time. *Human Relations* 65(1): 5–15.

Colville I, Pye A and Carter M (2013) Organizing to counter terrorism: Sensemaking amidst dynamic complexity. *Human Relations* 66(9): 1201–1223.

Connelly S and Turner MR (2018) Functional and dysfunctional fear at work: Dual perspectives. In Lindebaum D, Geddes D and Jordan PJ (eds) *Social Functions of Emotion and Talking about Emotion at Work*. Cheltenham: Edward Elgar, 127–153.

Cornelissen JP (2012) Sensemaking under pressure: The influence of professional roles and social accountability on the creation of sense. *Organization Science* 23(1): 118–137.

Cornelissen JP, Mantere S and 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.

Coupland C, Brown AD, Daniels K, et al. (2008) Saying it with feeling: Analysing speakable emotions. *Human Relations* 61(3): 327–353.

De Rond M, Holeman I and Howard-Grenville J (2019) Sensemaking from the body: An enactive ethnography of rowing the Amazon. *Academy of Management Journal* 62(6): 1961–1988.

Dreyfus HL (1995) *Being-in-the-world: A commentary on Heidegger's Being and time, Division I.* Cambridge, MA: MIT Press.

Dreyfus HL and Wrathall MA (eds) (2014) *Skillful Coping: Essays on the Phenomenology of Everyday Perception and Action*. Oxford: Oxford University Press.

Dwyer G and Hardy C (2016) We have not lived long enough: Sensemaking and learning from bushfire in Australia. *Management Learning* 47(1): 45–64.

Dwyer G, Hardy C and Maguire S (2021) Post-inquiry sensemaking: The case of the 'Black Saturday' Bushfires. *Organization Studies* 42(4): 637–661.

Elpidorou A and Freeman L (2015) Affectivity in Heidegger I: Moods and emotions in Being and Time. *Philosophy Compass* 10(10): 661–671.

Fischer MD (2012) Organizational turbulence, trouble and trauma: Theorizing the collapse of a mental health setting. *Organization Studies* 33(9): 1153–1173.

Gephart RP (1993) The textual approach: Risk and blame in disaster sensemaking. *Academy of Management Journal* 36(6): 1465–1514.

Gephart RP, Topal C and Zhang Z (2010) Future-oriented sensemaking: Temporalities and institutional legitimation. In Hernes T and Maitlis S (eds) *Process, Sensemaking, and Organizing*. Oxford: Oxford University Press, 275–312.

Golden S, Chang CH and Kozlowski S (2018) Teams in isolated, confined, and extreme (ICE) environments: A review and integration. *Journal of Organizational Behavior* 39(6): 701–715.

Griffiths T (2010) An unnatural disaster: Remembering and forgetting bushfire. *History Australia* 6(2): 35.1–35.2.

Guiette A and Vandenbempt K (2016) Learning in times of dynamic complexity through balancing phenomenal qualities of sensemaking. *Management Learning* 47(1): 83–99.

Hällgren M, Rouleau L and De Rond M (2018) A matter of life or death: How extreme context research matters for management and organization studies. *Academy of Management Annals* 12(1): 111–153.

Hannah ST, Uhl-Bien M, Avolio BJ and Cavarretta FL (2009) A framework for examining leadership in extreme contexts. *The Leadership Quarterly* 20(6): 897–919.

Hardy C and Maguire S (2016) Organizing risk: Discourse, power and riskification. *Academy of Management Review* 41(1): 80–108.

Hay GJ, Parker SK and Luksyte A (2021) Making sense of organisational change failure: An identity lens. *Human Relations* 74(2): 180–207.

Hayward RM and Tuckey MR (2011) Emotions in uniform: How nurses regulate emotion at work via emotional boundaries. *Human Relations* 64(11): 1501–1523.

Heaphy ED (2017) 'Dancing on hot coals': How emotion work facilitates collective sensemaking. *Academy of Management Journal* 60(2): 642–670.

Heidegger M (1962) *Being and Time*. Oxford: Blackwell.

Helpap S and Bekmeier-Feuerhahn S (2016) Employees' emotions in change: Advancing the sensemaking approach. *Journal of Organizational Change Management* 29(6): 903–916.

Holt R and Cornelissen J (2014) Sensemaking revisited. *Management Learning* 45(5): 525–539.

IGEM (Inspector-General for Emergency Management) (2016) *Progress report: Victorian Bushfires Royal Commission implementation of recommendations and actions*. Government of Victoria.

Introna LD (2019) On the making of sense in sensemaking: Decentred sensemaking in the meshwork of life. *Organization Studies* 40(5): 745–764.

Kataria N, Kreiner G, Hollensbe E, et al. (2018) The catalytic role of emotions in sensemaking: Evidence from the blogosphere. *Australian Journal of Management* 43(3): 456–475.

Klarin A and Sharmelly R (2021) Strategic sensemaking and political connections in unstable institutional contexts. *Journal of Management Inquiry* 30(1): 3–23.

Knights D and Clarke C (2018) Living on the edge? Professional anxieties at work in academia and veterinary practice. *Culture and Organization* 24(2): 134–153.

Lindebaum D and Jordan PJ (2012) Positive emotions, negative emotions, or utility of discrete emotions? *Journal of Organizational Behavior* 33(7): 1027–1030.

Lindebaum D, Geddes D and Jordan PJ (2018) Theoretical advances around social functions of emotion and talking about emotion at work. In Lindebaum D, Geddes D and Jordan PJ (eds) *Social Functions of Emotion and Talking about Emotion at Work*. Cheltenham: Edward Elgar, 1–19.

Lüscher LS and Lewis MW (2008) Organizational change and managerial sensemaking: Working through paradox. *Academy of Management Journal* 51(2): 221–240.

Maclean M, Harvey C and Chia R (2012) Sensemaking, storytelling and the legitimization of elite business careers. *Human Relations* 65(1): 17–40.

Maitlis S (2005) The social processes of organizational sensemaking. *Academy of Management Journal* 48(1): 21–49.

Maitlis S and Christianson M (2014) Sensemaking in organizations: Taking stock and moving forward. *The Academy of Management Annals* 8(1): 57–125.

Maitlis S and Ozcelik H (2004) Toxic decision processes: A study of emotion and organizational decision making. *Organization Science* 15(4): 375–393.

Maitlis S and Sonenshein S (2010) Sensemaking in crisis and change: Inspiration and insights from Weick. *Journal of Management Studies* 47(3): 551–580.

Maitlis S, Vogus TJ and Lawrence TB (2013) Sensemaking and emotion in organizations. *Organizational Psychology Review* 3(3): 222–247.

Maynard MT, Kennedy DM and Resick CJ (2018) Teamwork in extreme environments: Lessons, challenges, and opportunities. *Journal of Organizational Behavior* 39(6): 695–700.

Moxnes P (2018) Anxiety and organization: What I learned about anxiety in a psychiatric ward in the 70s that turned out to be useful for managers in daily practice. *Culture and Organization* 24(2): 100–113.

Orton JD and O'Grady KA (2016) Cosmology episodes: A reconceptualization. *Journal of Management, Spirituality and Religion* 13(3): 226–245.

Ron N, Lipshitz R and Popper M (2006) How organizations learn: Post-flight reviews in an F-16 fighter squadron. *Organization Studies* 27(8): 1069–1089.

Rouse J (2000) Coping and its contrasts. In Wrathall MA and Malpas JE (eds) *Heidegger, Coping, and Cognitive Science: Essays in Honor of Hubert Dreyfus, Volume 2*. Cambridge, MA: MIT Press, 7–28.

Sandberg J and Tsoukas H (2011) Grasping the logic of practice: Theorizing through practical rationality. *Academy of Management Review* 36(2): 338–360.

Sandberg J and 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.

Sandberg J and Tsoukas H (2020) Sensemaking reconsidered: Towards a broader understanding through phenomenology. *Organization Theory* 1: 1–34, DOI: 10.1177/2631787719879937.

Schabram K and Maitlis S (2017) Negotiating the challenges of a calling: Emotion and enacted sensemaking in animal shelter work. *Academy of Management Journal* 60(2): 584–609.

Segal S (2010) A Heideggerian approach to practice-based reflexivity. *Management Learning* 41(4): 379–389.

Shepherd DA and Williams TA (2014) Local venturing as compassion organizing in the aftermath of a natural disaster: The role of localness and community in reducing suffering. *Journal of Management Studies* 51(6): 952–994.

Sieben B (2007) Doing research on emotion and virtual work: A compass to assist orientation. *Human Relations* 60(4): 561–580.

Spinosa C, Flores F and Dreyfus HL (1997) *Disclosing New Worlds*. Cambridge: MIT Press.

Steigenberger N (2015) Emotions in sensemaking: A change management perspective. *Journal of Organizational Change Management* 28(3): 432–451.

Styhre A, Börjesson S and Wickenberg J (2006) Managed by the other: Cultural anxieties in two Anglo-Americanized Swedish firms. *International Journal of Human Resource Management* 17(7): 1293–1306.

To ML, Fisher CD and Ashkanasy NM (2015) Unleashing angst: Negative mood, learning goal orientation, psychological empowerment and creative behaviour. *Human Relations* 68(10): 1601–1622.

van der Giessen M, Langenbusch C, Jacobs G, et al. (2021) Collective sensemaking in the local response to a grand challenge: Recovery, alleviation and change-oriented responses to a refugee crisis. *Human Relations*. Epub ahead of print 29 March 2021. DOI: 00187267211004688.

VBRC (Victorian Bushfires Royal Commission) (2010) The 2009 Victorian Bushfire Royal Commission Final Report. Available at: http://royalcommission.vic.gov.au/Commission-Reports/Final-Report.html (accessed 11 May 2020).

Vuori T and Virtaharju J (2012) On the role of emotional arousal in sensegiving. *Journal of Organizational Change Management* 25(1): 48–66.

Weick KE (1990) The vulnerable system: An analysis of the Tenerife air disaster. *Journal of Management* 16(3): 571–593.

Weick KE (1993) The collapse of sensemaking in organizations: The Mann Gulch disaster. *Administrative Science Quarterly* 38(4): 628–652.

Weick KE (1995) *Sensemaking in Organizations, Vol 3*. Thousand Oaks, CA: SAGE.

Weick KE (2001) *Making Sense of the Organization*. Oxford: Blackwell Publishing

Weick KE (2003) Theory and practice in the real world. In Tsoukas H and Knudsen C (eds) *The Oxford Handbook of Organization Theory*. Oxford: Oxford University Press, 456–473.

Weick KE (2009) *Making Sense of the Organization, Volume 2: The Impermanent Organization*. New York: John Wiley & Sons, Incorporated.

Weick KE (2010) Reflections on enacted sensemaking in the Bhopal disaster. *Journal of Management Studies* 47(3): 537–550.

Weick KE, Sutcliffe KM and Obstfeld D (2005) Organizing and the process of sensemaking. *Organization Science* 16(4): 409–421.

Weiser AK (2021) The role of substantive actions in sensemaking during strategic change. *Journal of Management Studies* 58(3): 815–848.

Yakhlef A and Essén A (2013) Practice innovation as bodily skills: The example of elderly home care service delivery. *Organization* 20: 881–903.

Yanow D and Tsoukas H (2009) What is reflection in action? A phenomenological account. *Journal of Management Studies* 46(8): 1339–1364.

Zietsma C and Toubiana M (2018) The valuable, the constitutive, and the energetic: Exploring the impact and importance of studying emotions and institutions. *Organization Studies* 39(4): 427–443.

Graham Dwyer is Course Director of postgraduate studies (Master of Social Impact) at the Centre for Social Impact at Swinburne University of Technology where he also teaches in the areas of social change, leadership and corporate social responsibility. His research interests centre on issues of sensemaking, learning and change in emergency management organizations. [Email: grahamdwyer@swin.edu.au]

Cynthia Hardy is a Laureate Professor Emerita at the University of Melbourne and, formerly, a Professor at Cardiff Business School. Her research interests revolve around discourse, power, risk and organizational change. Her work has covered a wide range of issues, including refugees, HIV/AIDs, toxic chemicals, and aging. She is a Fellow of the British Academy and the Academy of the Social Sciences in Australia, and an Honorary Member of the European Group of Organization Studies. In 2018, she was awarded the Joanne Martin Trailblazer of the Year Award by the Organization & Management Theory division of the Academy of Management. [Email: chardy@unimelb.edu.au]

Haridimos Tsoukas (www.htsoukas.com) is the Columbia Ship Management Professor of Strategic Management at the University of Cyprus and a Distinguished Research Environment Professor of Organization Studies at Warwick Business School. He is an Honorary Professor at the University of Sydney and at Queensland University, former Editor-in-Chief of *Organization Studies* and co-founder (with Ann Langley) of the annual International Symposium on Process Organization Studies. He is an Honorary Member of the European Group of Organization Studies (since 2016) and the recipient of the Joan Martin Trailblazer Award from the OMT Division of the American Academy of Management (2016). He is Co-editor of, among others, several volumes published in the OUP Series 'Perspectives on Process Organization Studies' and of *The SAGE Handbook of Process Organization Studies* (with Ann Langley, SAGE, 2017) Also, he is author of *Complex Knowledge* and *Philosophical Organization Theory*, both published by Oxford University Press. [Email: tsoukas.haridimos@ucy.ac.cy]