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*'Catastrophic Failure' Theories and Disaster Journalism: Evaluating Media Explanations of the Black Saturday Bushfires*

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# **‘Catastrophic Failure’ Theories and Disaster Journalism: Evaluating Media Explanations of Australia’s Black Saturday Bushfires**

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## **ABSTRACT**

In recent decades, academic researchers of natural disasters and emergency management have developed a canonical literature on ‘catastrophe failure’ theories such as disaster responses from United States emergency management services (Drabek 2010; Quarantelli 1998) and the Three Mile Island nuclear power plant (Perrow 1999). This paper examines six influential theories from this field in an attempt to explore why Victoria’s disaster and emergency management response systems failed during Australia’s Black Saturday bushfires. How well, if at all, are these theories understood by journalists, disaster and emergency management planners, and policy makers? In examining the Country Fire Authority’s response to the fires, as well as the media’s reportage of them, we use the 2009 Black Saturday bushfires as a theory-testing case study of failures in emergency management, preparation and planning. We conclude that journalists can learn important lessons from academics’ specialist knowledge about disaster and emergency management responses.

## **Introduction: The Black Saturday bushfire in Australia as an ‘Extreme Weather Event’**

In Australia, wildfires are known colloquially as bushfires. Because of southern Australia’s prevailing climate and vegetation types, bushfires can be severe (Bowman 2000) and are the ‘extreme weather event’ that shapes Australia’s psyche (Fahey 2003, Campbell 2003). Devastating bushfires causing large numbers of fatalities have occurred regularly in Australian history. Historian Richard Evans observes that Black Saturday was only the most recent in a succession of ‘catastrophic’ bushfires in southern Australia: the Black Thursday fire in the Port Philip settlement (6 February 1851), Red Tuesday (1 February 1898), serious fires in 1919 and 1926, the Black Sunday fires of 14 February 1932, the Black Friday bushfires of 13 January 1939, Ash Wednesday (16 February 1983), and the Canberra bushfires of 2003 (Evans 2009: 105-121). This situates bushfires as ‘extreme weather events’ at the centre of two major socio-political debates in Australia: the cultural and history wars over the politics of memory, and concerns about anthropogenic or human factors in climate change. Ulrich Beck’s ‘risk society’ thesis (Beck 1999) broadly situates these debates. After the 2007-09 global financial crisis, governments and policy makers are interested in ‘catastrophic’ risk models – that differs from linear or cumulative actuarial models, are discontinuous, and imply ‘order of magnitude’ consequences and severity (Banks 2005; Taleb 2005; Taleb 2007).

The Black Saturday bushfires on February 7th 2009 devastated much of the Australian state of Victoria, claiming 173 lives, displacing 7,500 survivors, and destroying several small towns and hamlets in the forested hills north and north-west of Melbourne (Victorian Bushfires Royal Commission 2009: 33-82). Temperatures reached 47 degrees Celsius in

many parts of the state, accompanied by very low humidity and high winds in excess of 80 kilometres an hour. In an internet page describing the weather event, Australia's official weather agency notes that "maximum temperatures were up to 23 degrees above the February average, and for many centres it was the hottest day on record" (Bureau of Meteorology 2010).

In this paper, we analyse the intersection between six academic theories about 'catastrophic failure' and journalistic reportage about disasters. What can these theories tell us about Black Saturday and possible causal and risk factors for the bushfires? How well are these theories understood by journalists, planners and policy makers? Why is it important that journalists understand these theories, and how might this change future reportage? Some answers might lie in the extensive literature on the organisational sociology and emergency management of natural disasters (Drabek 2010; Drabek 2004; Dynes 2004; Tierney, Lindell and Perry 2001; Quarantelli 1998), of extreme events, and human judgment and decisions under uncertainty (Taleb 2005; Taleb 2007; Taleb 2008; Bazerman and Watkins 2004, Perrow 1999, Perrow 2007, Moeller 1999; Sagan 1993; Vaughan 1996; Burns 2008).

In examining Black Saturday responses, we found the media focused on four aspects: survivor accounts, critique of CFA leaders, historical analogies, and the perceived role of ecosystem and environmental factors. The data sample for our comparative theory-testing is limited to secondary analyses of newspaper reportage and survivor 'long-form' narratives (Muller and Gawenda 2009; O'Connor 2010; Kissane 2010; Clode 2010; Hughes 2009; Evans 2009). An in-depth analysis of the 2009 Victorian Bushfires Royal Commission is beyond this paper's scope, although we do consider some implications for how its testimony and recommendations might be interpreted. Crucially, Black Saturday involves the intersection of fires, human nature, history and risk (Kissane 2010: 31). We also examine the lessons for "social foresight" (Slaughter 2004) and how Black Saturday might reshape Australia's politics of memory.

Our most striking observation on Black Saturday reportage is the lack of deeper analysis by journalists of the bushfires' causes and nature. Likewise, the Bushfires Royal Commission also detailed a deficient response by government officials, and disaster and emergency management planners. The most comprehensive survey of Black Saturday media coverage (Muller and Gawenda 2009) showed that journalists used a 'social responsibility' framework, emphasising empathy towards survivors. Later reportage adopted a legalistic approach on the Bushfires Royal Commission, in the adversarial style of post-Watergate liberal criticism of key decision-makers and institutions. Different normative theories of journalism can subtly shape broader media narratives about causal factors and organisational decision-making processes (Christians et al 2010; Cole and Harcup 2010).

### **Six 'Critical Failure' Theories on the 2009 Black Saturday Bushfires**

The Royal Commission into the Black Saturday bushfires revealed many flaws in the response by authorities to the unfolding disaster (Victorian Bushfires Royal Commission 2009: 229-260). Disaster and emergency management literature provides a coherent body of knowledge which may shed analytical insights on the salient causal and risk factors. Several dominant explanations exist across different levels of analysis, which highlight the uncertain interaction of events, knowledge, judgments and organisations during disaster responses. As Thomas Drabek (2010: 211) concludes, on the basis of several decades of emergency

management research, “disasters are non-routine social problems.”

While there is an extensive debate in the specialist literature about their nature (Quarantelli 1998), disasters have several characteristics: they are usually described as events, that may have been foreseeable (Bazerman and Watkins 2004); were foreseen by whistle-blowers yet not acted on; or are extreme events that lie outside human rational knowledge (Taleb 2007; Taleb 2008). A major reason for this ‘unknowable’ character of extreme events is the influence of Tversky and Kahneman’s ‘prospect theory’ (1979) on cognition, biases, and decision heuristics about information (Burns 2008). Bushfires evoke ‘Extremistan’: the circumstances in which linear, predictive models of risk fail (Taleb 2007; Taleb 2008). Two organisational problems include ‘tightly-coupled’ systems that are too rigid to cope with complexity (Perrow 1999), and collaborative work cultures that become corrupt or deviant (Vaughan 1996).

Scott D. Sagan (2003) uses comparative theory-testing to analyse and evaluate different theories. He contrasts High-Reliability Theories with ‘Normal Accident Theory’ (Perrow 1999), on nuclear warnings and near accidents. We conduct a similar exercise using six influential theories. Our findings are initial, tentative, and open to further debate.

### **1. Thomas Drabek: ‘Disasters Are Non-Routine Social Problems’**

Thomas Drabek (2010 and 2004) has studied natural disasters and emergency management responses in the United States for more than four decades. Drabek’s theory of disasters emphasises the behavioural, psychological and social aspects of disaster response: the sociological and behavioural underpinnings of such phenomena as emergency evacuation, disaster communication, victim behaviour and volunteering. His research emphasises the mismatch between the policies and procedures of government authorities and emergency management agencies, and the behaviour of the citizens they are supposed to protect.

Drabek details how many emergency management agencies often ignore key insights from the sociological literature when designing emergency warning systems. A recurring theme in disaster research is the unreliability of using telecommunications systems for warnings, because phone lines are quickly jammed by panicked friends and relatives trying to reach loved-ones. Like Drabek, the Bushfires Royal Commission found multiple breakdowns in the Country Fire Authority’s emergency warning and telecommunications systems on Black Saturday (Bushfires Royal Commission 2009: 155-172; Kissane 2010: 86-87).

Drabek’s research findings directly concern the behaviour of citizens faced with the CFA’s policy of ‘Stay or Go’ evacuation decisions (Kissane 2010: 29). Drabek notes that people in these situations commonly seek confirmation of the threat situation before evacuating, attempt to depart as a family unit, or, if they are not physically together at the time of warning, try and account for all family members before leaving (Drabek 2010: 79). The media and policy debate about Victoria’s controversial ‘Stay or Go’ evacuation policy emphasised these behaviours.

### **2. Nassim Nicholas Taleb: ‘Black Swans’**

Taleb’s theories (2005 and 2007) are often misinterpreted in the narrow context of the 2007-09 global financial crisis, but Taleb’s research program builds on David Hume, Karl Popper

and classical philosophers to contend that humans have limited knowledge and ‘judgment under uncertainty’. Humean ‘Black Swans’ are foreseeable outlier events. Taleb (2008) suggests that we normally inhabit the Gaussian reality of ‘Mediocristan’ in which risks may be predicted, controlled and managed; Taleb is more interested in ‘Extremistan’: the non-Gaussian reality which reveals our biases and the inability of social institutions to quickly adapt. Taleb echoes Sagan (1993) and Drabek (2010) on the intersection of risk, complexity and organisational responsiveness.

Initially, journalists and policy makers interpreted Black Saturday as one of Taleb’s Black Swans. Fire simulation expert Kevin Tolhurst and others reached more nuanced conclusions. For Tolhurst, crews faced “fire unpredictability” and then a “monster fire”, in which “massively long distance spotting” or contagion-like firestorms occurred, for the first time, between Mount Disappointment and Sugarloaf Ridge (Kissane 2010: 81, 114-115, 84, 132). CFA and crews had been trained in ‘Mediocristan’ situations and now faced an ‘Extremistan’ scenario unfolding. As Richard Evans later observed, “The fires exposed the limits of experience” (2009: 121).

### **3. Susan Moeller: Event-Fitting and the “Hunt for the Perpetrators”**

Susan Moeller’s five-phase model of how the media reports on assassinations, terrorist attacks and disasters (1999: 169-173) illustrates how journalists uncover patterns and editors use event data to make decisions about coverage, photos, and layout. For Moeller, media coverage shifts from the initial event coverage, to more detail and policy maker reaction, then to a “hunt for the perpetrators”, and finally to public resolution, appointment of a successor, or closure. Moeller’s model fits how editors and journalists responded to the September 11 terrorist attacks and also to Black Saturday.

Moeller’s “hunt for the perpetrators” phase fits the Australian media's initial focus on the investigation of arsonists and the backlash against key decision-makers in the CFA and Victorian Police (Kissane 2010: 74). CFA boss Russell Rees and the Bushfire Reconstruction Authority’s chief Christine Nixon both later resigned, under considerable media pressure. Rees and Nixon were both widely criticised for their Bushfires Royal Commission testimony, and a perceived lack of leadership, priorities, and time management decisions – for example, Nixon’s decision to leave the minute-to-minute management of the fire response on February 7<sup>th</sup> to subordinates, while she went to a hotel for a meal with friends.

A similar public backlash occurred in the United States after September 11 and Hurricane Katrina. Journalists and editors had difficulty confronting the systemic failure of government institutions to cope with a domestic disaster. Ironically, Moeller and others suggest that media organisations with experience in reporting on foreign wars and international disaster zones may be more experienced, due to an ‘international bias’ of event framing and reportage (Baum and Groeling 2010).

### **4. Charles Perrow: ‘Normal Accidents’**

Perrow’s ‘Normal Accident Theory’ (1999: 363-364) offers a well-documented answer to Moeller’s ‘event fitting’. His study of the National Aeronautics and Space Administration (NASA) and the National Transportation Safety Board (NTSB) found that accidents and failures are ‘normal’ in high-risk conditions. Aircraft, marine, and space accidents have a

higher probability of occurring when decision complexity is ‘tightly coupled’ with organisations in socio-technical systems. Consequently, NASA and NTSB have developed rigorous investigative protocols.

Perrow’s thesis offers some highly persuasive explanations as to why communications and critical infrastructure failed on Black Saturday, notably in the Kilmore East fire. Perrow’s model of infrequent but predictable breakdowns of complex safety systems fits well with Australia’s repeated history of catastrophic bushfires causing multiple fatalities, and specific aspects of Perrow’s research, such as the tendency for organisational risk management systems to fail under the pressure of highly stressful events, saw uncanny echoes with the CFA’s inability to issue timely warnings to threatened citizens on the 7<sup>th</sup> February. However, Australian journalists seemed unfamiliar with Perrow’s influential work: they had ‘rediscovered’ what risk sociologists had known for two decades. Perrow’s early work also stresses that institutions are prone to forgetting or ignoring safety lessons learnt from previous incidents, a factor which Commission found had occurred within the CFA. Had Perrow’s insights been followed, the CFA and the Integrated Emergency Coordination Centre (IECC) that handled the crisis may have been organised in a more decentralised, redundant manner. Although the CFA and the public have advocated social network platforms like Twitter as a solution, these platforms can fail in crises (Burns and Eltham 2009). In later work, Perrow (2007) is even more explicit that so-called ‘natural’ disasters are usually built on ‘unnatural’ human civilisation.

### **5. Diane Vaughan: The ‘Normalisation of Deviance’**

Diane Vaughan’s work in organisational sociology has achieved a similar stature to Perrow and Taleb amongst academic researchers. Vaughan was deeply sceptical about the US Presidential Commission’s findings on NASA’s 1986 Challenger space shuttle disaster. She used historical ethnography to propose an alternative hypothesis that would deepen the public’s perception of risk factors (Vaughan 1996: 68-72). For Vaughan, Challenger went beyond the failure of O-ring seals and the launch decision: she argued that NASA was trapped in a scientific-bureaucratic approach to problem-solving, and faced publicity pressure because of civilian teacher and crew member Christa McAuliffe (Vaughan 2004: 114).

Alongside Perrow (1999), Vaughan’s research observes that ‘knowable’ disasters *do* occur, because of institutional governance failures. Her findings echo Drabek (2010 and 2004) when discussing disaster and emergency management organisations. Yet Vaughan goes further: her critique of NASA and the US Presidential Commission anticipates the concerns levelled at the 9/11 Commission, Bushfires Royal Commission and other exercises that attempt to deal with Taleb’s ‘Extremistan’ (2007 and 2008). Unlike Moeller (1999), Vaughan warns that such exercises can shape public memories, and in doing so, obscure deeper causal, structural and systemic factors.

### **6. Max Bazerman and Michael Watkins: ‘Predictable Surprises’**

Bazerman and Watkins’ expertise lies in decision theory (2004) and how organisations can amplify individual biases. They consider problems in decision-making: secrecy, loss of institutional memory, silos, and rejected information. Journalists and policy makers tend to ‘personalise’ particular leaders, as easily identifiable symbols of Perrow (1999) and Vaughan’s (1996) complex decision-making.

Bazerman and Watkins (2004) find that individuals are prone to positive illusions and unrealistic optimism, a view shared by University of Tasmania's Professor Douglas Paton in his Bushfires Royal Commission testimony (Bazerman and Watkins 2004: 74-77; Kissane 2010: 32-33; Victorian Bushfires Royal Commission 2010b: 56). Fire-fighting crews in Kinglake missed critical broadcasts on channel 55 because their radio was tuned instead to channel 54 (Kissane 2010: 175). The CFA's 'Stay or Go' policy was designed for the very conditions where people make fatal miscalculations, such as to misjudge the ambient heat, smoke and speed of approaching bushfires. In parallel to 'extreme weather events,' Bazerman and Watkins find similar problems with emergency management responses in human disasters such as the 14 August 2003 blackout in New York (2004: 188-194).

#### **Four Lessons of 'Catastrophe Failure' Theories**

Collectively, these six 'catastrophe failure' theories point to a range of causal, decision, organisational judgment and risk factors that may explain why Victoria's disaster and emergency services failed on Black Saturday. Drabek (2010) and Taleb (2007) establish the necessary and sufficient conditions. Vaughan (1996) and Perrow (1999) illustrate why organisations fail. Moeller (1999) captures how journalists and editors use crisis management routines. Bazerman and Watkins (2004) show that individual mistakes are amplified into repeated learning failures.

Our analysis of Black Saturday using six 'catastrophe failure' theories suggests that theory-testing can identify a range of possible causal factors and reasons that a single journalistic stance or normative theory can miss. To our knowledge, none of the Australian media coverage of the Black Saturday fire, or the fire's aftermath and subsequent Royal Commission, mentions or engages with these systemic theories of natural disaster management. However, journalist Karen Kissane (2010) does raise many of the specific points that we mention, based on her detailed reportage of the Bushfires Royal Commission.

Four key lessons stand out: (1) failures to learn from history; (2) the unanticipated effects of social policies; (3) inter-sectoral conflicts between different groups; and (4) the combination of diverse, long-term factors beyond individual control. As the 'catastrophe failure' theories note, these range across individual, organisational and inter-sectoral risk factors. Familiarity may facilitate a more nuanced journalistic culture, and a focus on the background to disaster and emergency management, rather than just the events and their aftermath.

Survivors during Victoria's Bushfires Royal Commission were adamant that current disaster and emergency planners failed to learn from history. This is ironic: the CFA owes its genesis to the Stretton Royal Commission after 1939's Black Friday bushfires (Fahey 2004; Evans 2009: 114; Kissane 2010: 38-39; Collins 2006). Critical infrastructure like fire refuges, which had been shown in past emergencies to save lives, were decommissioned or were derelict since 1983's Ash Wednesday bushfires (Victorian Bushfires Royal Commission 2010b: 2). Unanticipated effects included how the geographic boundaries of local councils affected funding for emergency services, and the lack of clearly defined "defensible space" in the CFA's 'Stay or Go' policy (Victorian Bushfires Royal Commission 2010b: 4-7).

Inter-sectoral conflicts blamed for Black Saturday were foreshadowed by Canberra's 2003 bushfires which killed four people, and destroyed 500 homes and city infrastructure.

Journalistic accounts (Clack 2003) and the House of Representatives Select Committee on the Recent Australian Bushfires (2003) blamed several risk factors: inadequate national disaster and emergency response coordination, uncontrolled fires in national parks due to sustainability-oriented land managers, loss of institutional memory, poor morale in volunteer fire services, and an unprepared public. Black Saturday was an even more extreme event than the Canberra fires of 2003, and the risk factors in both cases reflected the six theories on why organisations often fail.

Perrow (2007) and Murphy (2009) raised similar concerns about Canadian and United States experiences with ‘extreme weather events’ and decisions about built infrastructure. Long-term factors are also beyond individual control: the influence of the Australian housing market on real estate investment in the rural-urban interface; clashes between environmentalists and farmers; and the influx of “tree-changers” or “sea-changers” due to demographic, employment and lifestyle changes (Kissane 2010: 15-18). These groups motivated inter-sectoral conflicts because of different governance, policy planning, and resource allocation objectives (Jacobs 1992).

### **Implications for Journalists and Media Professionals**

Journalistic education has increasingly emphasised the role of ‘convergent’, ‘digital’, and ‘citizen’ forms of journalism (Allen and Thorsen 2009, Evenson 2008, Quinn and Filak 2005). Black Saturday has some important implications for journalists and media professionals. The Australian Broadcasting Corporation’s *Four Corners* investigation (2009) highlighted the power of ‘convergent media’ via mobile phone footage of fires approaching Kinglake’s Kangaroo Ground Oval. Can ‘citizen journalists’ act as more than just ‘first responders’? How do non-professionals interact with government officials, planners, and communication experts? (Haddow and Haddow 2009)

Perrow (1999) suggests technological solutions are also vulnerable during crises. Australian news media organisations are still far more conservative in using social media platforms, even compared with international conglomerates. Few real-time blogs existed of the Bushfires Royal Commission testimony. Recovery efforts coverage was also pretty thin.

As Moeller (1999) demonstrates, journalists unfamiliar with disaster and emergency reportage none-the-less often follow crisis management routines. Muller and Gawenda’s extensive survey of bushfire reportage (2009) echoes Moeller’s findings. Crisis management routines, institutional practices and professional ethics helped journalists to frame their Black Saturday coverage, influenced how they conducted interviews and dealt with trauma and survivors, and affected what they decided to omit.

Normative theories suggest a range of views far more nuanced than a simple dialectic between ‘citizen’ or ‘public’ journalism versus ‘corporatist’ media institutions, which we can use to situate the journalistic debate about Black Saturday (Christians et al 2009). Journalistic reportage is typically empathetic to bushfire victims and survivors, but adversarial to key decision makers such as fire and police commissioners whom the journalist or media institution deems to have made poor or negative decisions; this tendency overlaps with the adversarial tradition of post-Watergate investigative reportage. Media coverage is deferential to political institutions like the Bushfires Royal Commission, borrowing conventions from court reportage: expert witnesses, academics and public officials who editors believe have

social legitimacy. Tellingly, the Gold Walkley for 2009 – the top prize for Australian journalism – went to a survivor account of the bushfires by Gary Hughes (2009). In contrast, Karen Kissane's careful and detailed reportage of the Bushfires Royal Commission (2010) has to date received much less attention and critical praise.

The six 'critical failure' theories we examine suggest different conclusions on how effective the Victorian Bushfires Royal Commission may be in preparing Victorians for future, catastrophic bushfires. Moeller (1999) suggests they are crucial to restoring social order. Perrow (1999) and Vaughan (1996) are sceptical about institutional governance failures. Taleb (2007) and Bazerman and Watkins (2007) emphasise that misjudgements and 'decision failures' about 'Extremistan'-like events will dominate media coverage, deflecting attention from the systemic failures and policy inertia that may in fact have contributed to citizens' deaths. We argue that Australian journalists need more rigorous, investigative and academically-informed approaches, as adopted by US journalists after September 11 and Hurricane Katrina (Fink 2009), and less reliance on Commission-like hearings.

### **Conclusions: Black Saturday - A Failure of Foresight?**

Was Black Saturday foreseeable - a failure of institutional foresight? Evidence on the public record suggests it was. The CSIRO (2003) and the Bushfire Cooperative Research Centre warned of the possibility of catastrophic fires under the worst weather conditions (Lucas, Hennessy, Mills and Bathols 2007). Post-mortems after 1939's Black Friday and 1983's Ash Wednesday bushfires also warned of the potential for higher lethality and mortality rates. The Royal Commission discovered the CFA's own fire expert, Dr. Kevin Tolhurst, gave prior warnings. *The Age* and *Herald Sun* newspapers, and Victorian Premier John Brumby all made explicit warnings on the morning of the tragedy.

Foresight researcher Richard Slaughter's view of the "fragmented" social capabilities of institutions (Slaughter 2004) parallels the post-Black Saturday reassessment of the CFA's emergency response coordination. After World War II, the CFA adopted a 'command and control' structure that limited the autonomy of local incident controllers to release warnings, and that was conceived for month-long 'campaign fires' (Kissane 2010: 38, 54, 94-96). This contributed to 'decision traps' for the Kilmore East, Flowerdale, Kinglake, Strathewen and St. Andrews fires, in which critical communications, command and control infrastructure fell apart. Kilmore East's fire was controlled by an officer that the CFA admitted was inadequately trained for large, complex incidents (Victorian Bushfires Royal Commission 2010a: 72, 74, 109). Joint coordination between Kilmore East and Kinglake became impossible when both regions faced major fires (Kissane 2010: 167-168). Although the CFA and the Victorian Department of Sustainability & Environment (DSE) had established an Integrated Emergency Coordination Centre (IECC), this institutional capability was overwhelmed in the 'information cascade' of Black Saturday events. Thus, the usual foresight practitioner solution of changing the strategic planning function and providing a recognition and scanning capability is not enough (Bazerman and Watkins 2004: 98-102). Although the media has crisis management routines for disasters (Moeller 1999), this also isn't the institutional governance change that Perrow (1999) and Vaughan (1996) desire.

Paradoxically, many individuals did foresee and prepare for Black Saturday, including local Community Fireguard groups. Instances have surfaced of prior warnings and 'estimative forecasts' that could have been heeded. These include DSE researcher Liam Fogerty's email

of 3 February 2009, warning of a “catastrophic event” after examining meteorological forecasts and patterns (Kissane 2010: 43, 49-50, 62-63); the failure of SP AusNet’s electricity pole 39 at Kilmore East’s Pedabeen Spur at 11:45am on Black Saturday (Kissane 2010: 74); and the Urgent Threat Message for Kinglake issued at 4:10pm on Black Saturday, delayed by internal coordination problems, broadcast at 4:43pm on ABC radio and published online at 5:55pm (Kissane 2010: 86-89, 170-171). “Small decisions” separated the survivors from bushfire victims, and that involved chance, hazard and luck (Kissane 2010: 144).

We can learn from the experience of Kevin Tolhurst, the fire simulation expert in the IECC on Black Saturday (Victorian Bushfires Royal Commission 2010a: 69-92). Tolhurst had predicted major fires and warned the CFA, and was at CFA headquarters actively forecasting the spread and severity of the Kilmore East fire on February 7. But his warnings never reached key fire controllers because of breakdowns in the CFA’s internal communications and decision-making processes (Victorian Bushfires Royal Commission 2009: 256). Due to overcrowded office space, he was separated at CFA’s headquarters from the main situation room and from actionable real-time information. Tolhurst was unable to gather the reliable on-the-ground information he needed for effective simulations of fire dynamics. Even though some individuals may have the expertise, tools and insights to make accurate forecasts, operational and institutional failures can render them irrelevant.

### **The Politics of Memory: Why Media Understanding of Natural Disasters Matters**

Does it matter that Australian journalists seem unaware of academics’ specialist knowledge about disaster and emergency management responses? We argue that it does. Theory diffusion from expert academics to journalists and policy makers is an important yet overlooked intermediate stage. “Bushfire disaster came to seem like a bad memory,” historian Richard Evans observed (Evans 2009: 120). Black Saturday’s legacy may challenge Australian identity, urban modernity, and memory for decades.

Black Saturday raises some deeper questions: How do we build a more bushfire-aware national culture? Do we need to actually change some of the foundational myths of Australian culture and national identity? Should there be similar remembrance traditions for victims of extreme weather events as for Gallipoli? In their absence, Evans warns, false knowledge may prevail: “A society which thought that it knew how to handle bushfires discovered that it was wrong.” (Evans 2009: 119)

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