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Living with fire in the landscape: uncomfortable adaptation, or border war?

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Abstract

With anthropogenic climate change already bringing more frequent and more intense wildfires, combined with significant human populations living in wildfire-prone landscapes, there are increased calls for adaptive approaches to fire. There is hope that by doing so, and by moving from a predominantly responsive 'war on wildfire' approach, humans can learn to 'thrive with fire' (Tedim et al. 2020).

Humans around the world have always shared their landscapes with fire – circumstances dictating the degree of comfort. Through these lived experiences, the stories of humans learning to live within their landscapes and therefore with fire have always been – and continue to be – stories of learning and innovation (Bowman et al. 2011; Pyne 2016). These adaptations, however, have been both enabled and constrained by how humans and their institutions have envisioned their relationships with the more-than-human actors and agents that share the landscape with them (Ruane 2018). These actors and agents include, amongst many other things, fire, vegetation and the weather.

There has been a great deal of focus on what can be learnt from Indigenous knowledges about fire on the landscape (i.e. Roos et al. 2016; Steffensen 2020). However, there has been less attention on how complex and often conflicting Western visions of the landscape and therefore of fire have contributed to particular adaptive approaches.

This paper explores how these visions – Aboriginal, as well as colonial, romantic, scientific, national and ecological – are a useful way of examining current narratives and adaptive approaches to fire in an Australian context. Examining these differing visions helps understand the range of fire management adaptions that have emerged in Australia.

Each vision has implications for how 'fire-adaptive' communities might act; what decisions they might make; who might be involved; and the processes that are used to take an adaptive approach to fire. They offer knowledges and practices that could complement the dominant colonial vision of 'war on wildfire', as well as reduce the effects of social and environmental 'slow emergencies' on human and more-than-human vulnerabilities. However, despite knowledge of these alternative visions in governments and communities, they are difficult to incorporate meaningfully into the dominant vision. Adaptive approaches to fire in more-than-human communities will require trade-offs across levels of society, scales of landscapes and of time.

1. Introduction

With anthropogenic climate change already bringing more frequent and more intense wildfires, combined with significant human populations living in wildfire-prone landscapes, there are increased calls for adaptive approaches to fire. There is hope that by doing so, and by moving from a predominantly responsive 'war on wildfire' approach, humans can learn to 'thrive with fire' (Tedim et al. 2020).

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There has been a great deal of focus on what can be learnt from Indigenous knowledges about fire on the landscape (i.e. Roos et al. 2016; Steffensen 2020). However, there has been less attention on how complex and often conflicting Western visions of the landscape, and therefore of fire, have contributed to particular adaptive approaches. Colonisation of the Australian landscape, which began in earnest with the establishment of the

British colony of New South Wales in 1788, provides an interesting example of how these Western visions inform narratives about, and therefore adaptions to, wildfire.

2.   The Australian landscape: a more-than-human contact zone

When Donna Haraway wrote of contact zones in her book *When Species Meet* (2008), she used the concept to examine how separate species or systems, when 'forcibly brought together in relations of serious inequality' (Haraway and Reti 2007 p.33), can change and innovate through their encounters.

> *Contact zones are where the action is, and current interactions change interactions to follow. Probabilities alter, topologies morph, development is canalised by the fruit of reciprocal induction. Contact zones change the subject – all subjects – in surprising ways (Haraway 2008 p.219).*

Over a period of at least 60,000 years, as people have encountered and learnt about the effects of fire on the Australian continent, they have adapted their relationships with landscapes and fire to meet their needs. Adaptation through the encounters with wildfires – or 'bushfires' as the colonists began calling them – since colonisation has proved uncomfortable and difficult. In contemporary Australia, large populations of people are migrating into bushfire-prone semi-rural and peri-urban areas. Encounters with bushfires are inevitable, and problematic areas have been identified as: not people not 'properly' perceiving the risk that bushfire poses for them (e.g. Eriksen and Prior 2011); people not understanding the need to balance ecological fire with fire risk (e.g. Moskwa et al. 2018); and how negative public perception of prescribed fire puts a stop to prescribed ecological and hazard reduction burning (e.g. Morgan et al. 2020; Pyne 2020).

However, people's individual and collective innovation in fire management has been both aided and constrained by human perceptions, beliefs and values – visions – about their own role within their environment (Ruane 2018). These visions are in turn supported by specific narratives. Narratives are the stories told about humans, creating themes that inform ways of thinking, and therefore policies and actions (Moskwa et al. 2018). Examining and understanding narratives about how people position themselves and others in relation to complex environmental issues complements the modelled 'hard' sciences in developing policies for adaptative approaches regarding the landscape and fire (Bardsley, Wiseman, and Hugo 2016).

Examining these differing visions and narratives helps understand the range of fire management adaptions that have emerged from the human lived experiences of being a part of the contact zone of bushfire-prone landscapes. This in turn may help continue adaptive practices so that people can learn to thrice with fire – rather than simply letting human relationships with fire degenerate into border wars.

3.   Envisioning human relationships to the landscape and fire

Several authors have identified a common pattern in how humans relate to the landscape in Australia. These range from an integral, symbiotic Aboriginal vision that was dominant for all but the last 240 years, to exploitative colonial and national development visions, and to more recent sustainable management and ecological visions (i.e. Heathcote 1972; Fien 1988; Ruane 2018). A useful categorisation is provided by geographer R.L. Heathcote (1972). He identifies six ways – visions – in how people perceived their relationships with the Australian landscape. Five of these are Western visions that dominated post-1770 – scientific, romantic, colonial, national, and ecological. He also discusses a sixth vision – Aboriginal, although not with the detail he gives the other visions.

Heathcote presented these visions as roughly sequential, and as arising from different 'eras' of thinking. However, these six visions overlap and aspects of all may be seen as present in the visions of Australians today. Heathcote's categorisations are very anthropocentric, viewing 'the environment' as being without agency and only having value if it is in economic terms for humans. Despite this, his categories offer a valuable way of examining complex more-than-human relationships in a non-binary way – and how they all both inform and contradict one another.

Table 1- Six visions of the Australian landscape that inform current fire narratives and adaptions.
Adapted from Heathcote (1972).

Vision	Description
Colonial (dominant)	Survival and domination of the Australian landscape and Aboriginal peoples. Extraction of resources, transformation into a European space
Aboriginal	Cultural and spiritual connection to Country
Scientific	A curiosity about the Australian landscape (including its climate) and its uniqueness. A desire to categorise and therefore to perhaps understand it.
Romantic	Delight in the landscape as an 'untouched' wilderness. A sympathetic view of Aboriginal peoples.
National	Australian identity tied to the bush landscape, and to the hard-working people making a living in rural areas (successfully transforming the landscape with introduced flora and fauna)
Ecological	Concern about the impact that humans are having on the landscape. That European 'improvements'/adaptations have impoverished landscape conditions and facilitated extinctions.

This review of fire adaptive approaches for more-than-human communities contrasts these six visions. It identifies narratives that accompany each of these visions, as well as the fire-adaptive approaches that have arisen in Australia due to them.

3.1. Colonial (dominant) vision: narratives and adaptive approaches

Encounters with bushfires, especially the uncontrollable megafires that started to be experienced by colonists from the 1850s onwards (Morgan et al. 2020), shook perceptions of (white) human dominance, and enforced beliefs that the Australian environment posed a direct threat to European habitation (Collins 2006). The increasing frequency and intensity of megafires within Australia and globally (Morgan et al. 2020) continues to do so. As a result, 'we fear and suppress all of our unplanned fire' (Leonard 2017 p.1). This colonial adaptative approach is deeply entrenched in Australian language, legal system, government policies and practices, and built environment (Howitt 2014).

In Australia, narratives surrounding this colonial vision also take on moral undertones of blame and responsibility. Whittaker and Mercer (2004) point out that the 'aftermath of all major bushfire events in Australia invariably has been the apportioning of blame' (Whittaker and Mercer 2004, p. 263). Australian policy states that managing fire risk and fires as a 'shared responsibility' across governments, organisations and individuals. There is a strong legal framework around who, and under what conditions, can light fires (McLennan and Eburn 2015). Arsonists, people who deliberately light destructive fires, are particularly vilified (Hooper 2018).

Adaptive use of fire is limited to 'hazard reduction' burns that reduce the risk of fire damaging people and built infrastructure (Neale et al. 2019). 'Responsible' human adaptative actions informed by this colonial vision are those that mitigate fire risk (Bosomworth 2018), or plan how to survive a bushfire when it occurs (i.e. NSW Government 2020).

3.2. Aboriginal visions: narratives and adaptive approaches

Australia is one of many countries where colonisation has substantially displaced Indigenous peoples, as well as their fire and land management knowledge and practices (Bowman et al. 2011, Roos et al. 2016). For thousands of years, fire across the Australian continent has been used as a land and animal management tool (Neale et al. 2019, Gammage 2008). This knowledge has often been positioned by white researchers as historical (Eriksen and Hankins 2015), but there is growing contemporary use of Aboriginal fire knowledges – especially in northern Australia – as practice to promote the health and well-being of landscapes and human communities (Neale et al. 2019, McKemey et al. 2020, Russell-Smith et al. 2009). Indigenous writers such as Steffenson (2020) argue that putting cultural fire knowledges into practice on Country are integral to achieving social justice for marginalized peoples who have been enduring colonial rule.

3.3. Scientific vision: narratives and adaptive approaches

A scientific vision was behind the European exploration and colonisation of the Australian continent. The uniqueness of its flora, fauna and Aboriginal peoples were particularly valued, and science attempted to collect, categorise and therefore understand the landscape.

Narratives around fire in this vision are around experts gaining and applying their knowledge. Adaptation tends to be limited to fire management, rather than to local communities (Ruane 2019).

Adaptation is scientific approaches to use of fire – developed firstly through government-controlled forestry research (Pyne 2020). This has contributed enormously to knowledge about fire behaviour, which in turn has improved public safety through changes to building codes, fire danger indexes that create public warnings combining weather, soil and vegetation dryness data .

3.4. Romantic vision: narratives and adaptive approaches

A romantic vision is defined as people living in harmony with nature, and in harmony with diversity including with Aboriginal peoples. It can be linked to the 'co-existing with fire' narrative, which sees humans as a part of nature, and seeks to find a balance between fire and humans as parts of a social-ecological system (Bosomworth 2015).

One key adaptation as a result of this vision is seen in the National Parks in Australia, which are wilderness spaces, where people can only visit for approved recreation purposes. This approach has changed the landscape immeasurably since the 1770s and may have increased probability of fire in some areas. Whittaker and Mercer (2004) identified a 'wise use' narrative being used by timber, farming and mining industries after bushfires in 2003 bushfires to overstate fire risks of parks, and to demand the 'unlocking' of national parks.

3.5. National vision: narratives and adaptive approaches

National vision is defined as a celebration of the transformed bush, where European colonists could live a hard-working life free of the city and the industrial age/conditions. This vision underpins the Australian national identity - 'the bush became the synonym for Australia from the 1880s onwards' (Heathcote 1972, p.93). Its use supports colonial vision of the landscape and fire-suppression.

In national vision narratives, fighting bushfires (as well as the rest of the hostile Australian landscape) is the work of heroes, who work together showing egalitarian 'mateship' (Moore 2015). Arguably this narrative has also come to inform current Australian discourse around how communities do/should 'come together' in times of need, backed up by research into social capital (e.g. Aldrich 2012).

It is also perhaps this national vision which has underpinned recent shifts of populations from cities into bushfire-prone peri-urban and semi-rural landscapes (Eriksen and Prior 2011). In turn, this has meant that the dominant fire emphasis in Australia has to be community safety (Pyne 2020).

3.6. Ecological vision: narratives and adaptive approaches

Heathcote (1972) argues that the ecological vision of the Australian landscape arose from concerns that European 'improvements' to the landscape have actually made the landscape itself vulnerable. Western adaptations have not only limited farming successes, but also facilitated extinctions of native flora and fauna.

Ecological knowledge regarding optimal fire regimes for differing Australian ecologies has been growing (Bradstock 2010), and the narratives around this vision are that fire is natural and inevitable (Whittaker and Mercer 2004). At the same time, there is growing awareness that anthropogenic activities have impacted the Earth's climate, which is impacting the landscape – creating the conditions for more frequent and intense bushfires, as well as for more storms and floods (CSIRO and Bureau of Meteorology 2018).

Adaptation within this vision is about using prescribed fire to promote biodiversity. Some Australian researchers such as Leonard (2017) have suggested use of ecological fire could be 'democratised' out to people living in fire-prone landscapes. It is generally unclear how widespread this practice could be, given the level of bureaucracy that needs to be negotiated to light ecological fires legally.

4. Conclusion

Examining the relationships that Australian people have with their more-than-human communities through the categories of Heathcote's landscape visions exposes a range of narratives about fire. Each of these inform the adaptative approaches that have occurred as human and more-than-human actors/agents encounter one another – with obvious discomfort – in these contact zones.

Howitt (2014) argues that adaptation is not value-neutral, and successful adaptation requires trade-offs across levels of society, scales of landscapes and of time. Looking across these six human visions of the Australian landscape, it is not hard to see why. Which more-than-human actors/agents are the most vulnerable in encounters with which others in their community contact zones? Humans and their built environment encountering wildfire? The entire landscape itself encountering human activities? Marginalised Aboriginal peoples denied access to Country and fire? Ecologies that are no longer being burnt, or are being burnt too much? In the bushfire-prone contact zones, to borrow the words of researcher John Handmer, 'we are all vulnerable' (2003 p.55). The challenge is to identify and enact adaptive approaches to fire that reduce vulnerabilities for many actors/agents, rather than for only a few. Perhaps it is time to re-evaluate human relationships with the landscape and adjust our dominant colonial vision of domination. Perhaps then humans, and the landscapes they live in, can really thrive with fire.

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