Abstract

Amongst other issues, the ‘History Wars’ raise the question as to whether or not sites of conflict on the Australian colonial frontier will be preserved in the archaeological record. We explore this question through a consideration of what the expected nature of any such evidence might be, based on general and specific historical accounts and an understanding of site formation processes. Although limited success has been achieved to date in locating definitive evidence for such sites in Australia, we conclude that there are some specific situations where archaeology could usefully be applied to give rise to a more multi-dimensional understanding of the past.

In recent years the extent and nature of colonial frontier conflict has been at the fore of Australian public consciousness as a result of the widely publicised ‘History Wars’ – a fierce academic debate that has garnered extensive media coverage (Attwood 2005; Attwood and Foster 2003; Birch 1997; Blainey 1993; Clark 2002; Connor 2002; Keating 1992; Macintyre and Clark 2004; Manne 2003; Stanner 1968; Windschuttle 2000a, 2000b, 2002, 2009). The crux of the argument is historiographical and also founded in issues associated with the nature and reliability of social memory, and the manner in which stories about the relationships between settlers and Indigenous peoples have been constructed. As various scholars have demonstrated, archaeology has the potential to provide alternative views of the past, and in particular of Indigenous-settler relationships (e.g. Harrison and Williamson 2004; Murray 2004; Paterson et al. 2003; Silliman 2004; Stein 2005). Accordingly, some historians have called for archaeologists to engage in explorations of frontier conflict events through the application of archaeological techniques (e.g. Attwood and Foster 2003: 23). Such an approach affords the opportunity to inform the historiographical debate, through elucidating written and verbal renditions of frontier conflict events and/or satisfying the lacunae evident in some historical and oral accounts.

While most archaeologists are aware of the adage that ‘an absence of evidence does not necessarily indicate evidence of absence’, beyond our discipline this is not always the case. There is concern that some people interpret the surprisingly small number of massacre sites listed in state and national heritage registers as further proof as to the falsity of claims of extreme violence against Indigenous people on the frontier. In this paper we provide an explanation as to why so few massacre sites have been identified archaeologically to date and, through a consideration of their expected archaeological signatures, discuss how researchers might effectively engage in the investigation of such sites. We suggest that such investigations do not necessarily run the risk of satisfying revisionist arguments (cf Barker 2007: 12), if discussions of site formation processes are well incorporated in published accounts thereafter. Despite arguments by Barker (2007) that the nature of Australian frontier conflict was such that there is little probability of massacre events being manifested in the archaeological record, anecdotal accounts from archaeologists and Indigenous people dispute this, and we argue below that evidence from particular types of frontier massacres are more likely to be preserved than others. While these might be comparatively rare, there is little doubt they will be of extreme cultural significance to Indigenous people. They will additionally be of high social, historical and scientific significance to non-Indigenous people and are worthy of identification, investigation and protection.

The language of conflict

Given the emotive and contentious nature of the topic of frontier conflict, and the perils of becoming enmeshed in semantics, it is important to provide clear definitions for the terminology we utilise in this paper. However, we wish to make clear that in doing so we, like others before us, do not intend in any way to ‘detract from the complex range of suffering experienced by both Aborigines and colonists on the frontier’ (Rowland 2004: 2).

Frontier

We follow the definition provided by Grguric (2008: 59) of the frontier being ‘any area where colonial settlers were using the land for agricultural, mining and/or livestock, whilst Aboriginal people were still maintaining their
traditional life-ways in the area’. As we discuss later, land-uses varied across Australia and sometimes resulted in specific patterns of conflict, and therefore have implications for site formation processes.

Frontier conflict

We define frontier conflict as that which occurred between non-Indigenous settlers and Indigenous people in the frontier areas. Thus we are particularly concerned with conflict following British settlement of Australia during the late eighteenth and early nineteenth centuries, though we recognise that there were isolated instances of conflict between Indigenous people and others prior to this time.

Massacre

The etymology of the noun ‘massacre’ reveals the term derives from the Persian maslakh which was then adapted to the ancient French maçacre (meaning ‘butchery’ or ‘slaughterhouse’) (Dauzat 1938: 462). This linguistic history provides some understanding of what the term means when in general usage; however, a comprehensive definition of what constitutes a massacre in relation to human deaths is more difficult to assign. Surprisingly, the term is defined neither in international statute, nor in modern Australian common law or criminal code (Muozos 2000: 83-4), and the UN cautions against using such a phrase with ‘a high emotional charge, but no agreed definition’ (Hoyos 2002: 7). Within this paper we are concerned with considering the possible archaeological signatures of massacre sites rather than broader frontier conflict sites (cf. Barker 2007; Grguric 2008, 2010), and thus it is necessary to adopt a consistent, explicit definition. As such, when using the term massacre herein we are referring to an event involving two parties:

- Victims – a group comprising more than one person, typically possessing inferior weaponry with which to defend themselves; and,

- Perpetrators – another group, who distinguish themselves from their victims by having the power to kill without substantial risk of physically injuring themselves, and who might generally be considered to have instigated the event.

A massacre is also seen as having some temporality – meaning that victims were killed at approximately the same time or as a part of the same ‘action’ or ‘event’ over a constrained period, usually no more than a few days. And while Indigenous people were also responsible for carrying out killings, in this paper we are particularly concerned with massacres of Indigenous people by settlers.

A brief overview of frontier conflict in Australia

I look on the blacks as a set of monkies, and the earlier they are exterminated from the face of the earth the better. A letter in the Australian, 18 December 1838 as cited in Elder 2003:83

Before discussing the potential application of archaeological techniques to frontier massacre sites, we briefly review the historical context of such events on a state by state basis. This provides a framework for understanding the nature and timing of conflict that occurred, in order to establish the scaffolding for the subsequent discussion of how such events might be manifested archaeologically.

While we are concerned with frontier conflict post-1788, this was by no means the first time that Indigenous Australians had contact with foreigners. Frost (1987:371) suggested that Portuguese explorers located the Australian continent as early as 1530, though there is little written evidence to support this claim. However, it is clear that Aboriginal people along the northern shorelines and islands had contact with Macassan trepangers from at least the mid-1600s (May et al. 2010), and more regularly through the eighteenth and nineteenth centuries (Clarke 2000; Crawford 2001; MacKnight 1986; Morwood and Hobbs 1997). The available historical and linguistic evidence is conflicting as to the early nature of such relationships (Russell 2004), and while the archaeological evidence can be interpreted to indicate there may well have been an initial phase of hostility (Stone 1999), there is as yet no clear understanding of such events.

The first well-documented ‘discovery’ of the Australian mainland by Europeans was at Cape York in the northeast in 1606 – an event that also marked the first recorded instance of Indigenous-European conflict when one of the crew from the Dutch vessel Duyfken was fatally speared near the Wenlock River (Sutton 2008; see Figure 1). It was following the British 1788 establishment of the Sydney Cove colony [later to become New South Wales (NSW)] that sustained conflict commenced. Here there was an active phase of well documented killings and reprisal, a situation that was exacerbated when pastoralism and farming spread west of the Blue Mountains. Relationships disintegrated into extreme violence and the ‘Black War’ of 1824, during which...
many deaths on both sides were experienced (Pearson 1984), followed a decade later by the Waterloo Creek massacre. Argued by some to be the largest mass killing in Australian history, it involved the systematic killings in 1838 of an estimated 300 Aboriginal men, women and children (Milliss 1992). The increasing incidence of conflict and violent encounters in NSW ultimately led to the formation of a colonial cavalry troop (Pearson 1984: 75). This was arguably the precursor to the first official corps of Native Mounted Police (NMP) that formed in 1842, which were given instructions to ‘disperse’ Aboriginal people to ensure colonial advancement (Reynolds 1991: 15).

Of further note in the history of colonial frontier violence in NSW (and to which we refer later) was the Myall Creek massacre, also in 1838. This massacre involved a group of stockmen who rode into a pastoral station and killed most of the Aboriginal inhabitants (Barber 1993; Connor 2002; Elder 2003; Rowley 1972). Word of the killings soon became common knowledge and the action eventuated in a trial in which seven of the eleven stockmen involved were found guilty of murder and hanged on 18 December 1838 (Reece 1974:140, R v Douglass, R v Kilmeister). This represented the first killing of Aboriginal people whereupon the perpetrators were punished, ultimately resulting in the emergence of more clandestine – rather than overt – acts of frontier violence against Aboriginal people.

Settlement in the southeast soon encroached beyond NSW towards the new colonies of Victoria in the south (with an initial settlement in 1803 being abandoned before successful official resettlement in 1834) and Queensland (QLD) to the north (where settlement commenced from 1825 with official separation from NSW in 1859). While the former witnessed conflict associated with pastoralism similar to that experienced in NSW (Critchett 1990: 28-9), the latter experienced pressure from the expansion of additional industries including mining and fisheries (Loos 1993: 11). As had been the case in NSW, the NMP were also adopted in QLD, an event which Rowley (1972: 39) considered to be ‘the final bankruptcy of frontier policy’. The actions of the QLD-based NMP are sufficiently recorded in newspapers and archives (even excluding instances of clerical errors or exaggeration) to confirm them as ‘one of the major causes of violent Indigenous deaths in colonial Queensland’ (Richards 2008: 207).

Tasmania was settled as a penal colony in 1804 and the frontier conflict that ensued in this state is amongst the most widely acknowledged by historians (e.g. Ryan 1981; cf Windschuttle 2002). A notable occurrence here was the 1804 massacre at the Risdon Cove settlement, involving the death of between probably two and 50 members of an Aboriginal hunting party at the hands of settlers and soldiers. This event arguably set the scene for how participants of that state subsequently viewed each other (see Tardiff 2003). By 1835, after George Augustus Robinson had travelled Tasmania trying to locate surviving Aboriginal people to remove them to settlements on offshore islands, it was estimated that of at least 4000 (probably many more) inhabitants at the time of British arrival (Jones 1974; Pardoe 1986; Stockton 1983), only ca 150 remained (Birmingham 1992; Plomley 1966, 1987). Indeed, Indigenous-settler conflict in Tasmania was arguably so sustained, brutal and systematic that some historians have suggested it might represent a case of genocide (e.g. Armand 2003; Elder 2003: 29-48).

South Australia (SA) was settled as a free colony in 1836; however, despite initial attempts by the British Crown to protect local inhabitants (Rigney et al. 2008), here too colonisation was severely detrimental to the lives of Aboriginal people. As the interior became more settled, more clandestine episodes of violence occurred: ‘for settlers who were a long way from Adelaide and often well beyond the range of police and other government officials, utilitarian concerns prevailed’ (Foster et al. 2001: 5). A demonstration of the extent of violence in this free settlement – where convicts and military personnel did not form the basis of the population – is clear when examining the effects of settlement on the Ngarrindjeri, the Traditional Owners of the lower reaches of the Murray River and Coorong region. In 1836 it was estimated there were 3000 Ngarrindjeri (Jenkin 1979): by 1875 only ca 100 remained (Taplin 1879). And while some of the deaths were attributable to the effects of disease (Campbell 2002), at least a portion were the result of deliberate violence by settlers (Foster et al. 2001).

Owing to slower rates of settlement and increased remoteness from the southeastern hub, Western Australia (WA; with an initial settlement at King George Sound in 1826 followed by a settlement at the Swan River – later to become the capital Perth – in 1829) and the Northern Territory (NT; settled initially in 1825 as part of NSW but administered by SA from 1863–1911) saw conflict continue later in time than in the other Australian colonies and states. Collisions in the NT and northern WA related largely to the expanding pastoral industry (Roberts 2005: 1-23). In the south, clearance and farming of substantive tracts of Aboriginal land were the main sources of conflict where, for example, the 1834 Battle of Pinjarra saw the killing of between 15 and 80 Nyungar people, though Aboriginal accounts suggest the victim count was in the hundreds (Connor 2002: 76-83; Reynolds 1987). In WA and the NT the more recent occurrence of conflict has sometimes resulted in relatively better historical records of such events, as well as increasingly convincing oral testimony. For instance, the Forrest River massacre of 1926 (Fitzgerald 1984; Green 1995) and the Coniston Station massacre of 1928 (Cribbin 1984) were both punitive expeditions that were later subjects of legal inquiry and as a result generated large bodies of related archival material. Like the massacre at Wounded Knee in North America, the Coniston Station massacre is generally regarded as marking the ‘closing’ of the Australian frontier.

As illustrated, the nature and timing of frontier violence varied across Australia, though certain general patterns to the interaction can be discerned, following Elkin (1951). He considered that initial encounters, typically with explorers, were part of ‘a transition phase marked by observation and
careful contact’, with the underlying assumption on the part of Indigenous parties that the ‘newcomers are temporary sojourners only’ (Elkin 1951: 166-7). Yet there were exceptions. For example, Frederick Walker’s exploration party of 1861 (in search of the ill-fated Burke and Wills expedition) encountered a group of approximately 30 Aboriginal men in the vicinity of the Stawell River who were fired on, the result being that ‘Twelve were killed, and few if any escaped unwounded ... The gins [sic] and children had been left camped on the river and as there was no water there our possession of the spring was no doubt the cause of the war’ (Walker, 31 October 1861). Likewise, the establishment of the Canning Stock Route saw violent clashes causing deaths on both sides, resulting in a Royal Commission being held to scrutinize the treatment of Aboriginal people by exploration party members (Bianchi et al. 2010). When it became clear to Indigenous people that the visitors and those following in their wake intended to remain, clashes over resources became commonplace, with Indigenous people beginning to offer overt and determined resistance (Elkin 1951: 167; see also Loos 1982: 35). Settlers, the police and sometimes even the military were responsible for killing Indigenous people, who would then sometimes engage in retributive actions, though in some cases the killings were initiated by the latter in response to some misunderstood transgression by the intruders.

The archaeological signatures of frontier massacres

A review of the literature makes it apparent that archaeologists have only recently become engaged in debates about Australian frontier conflict (eg Anderson 2005; Free and Markwell 2005; Harkins 2009; Litster 2006; McKewin 2006; Rowland 2004). As shown in Figure 1, there have been investigations at the massacre sites of Panton River (Smith et al. 2005), the Woolgar River (Wallis et al. 2005) and Irvinebank (Genever 1996), the latter being the only published case thus far to definitively suggest the location of a massacre based on the survival of physical archaeological evidence. In addition to these accounts, there are speculated to exist considerable materials in the form of unpublished documents and oral histories which are not easily accessed, though are often referred to in heritage register listings of massacre events, as is the case with the Myall Creek massacre (DEWHA 2010). In the remainder of this paper we explore why massacre sites are not more registered, and that the bodies were not as meticulously documented as in the official records, thus making it challenging to relocate specific locations. However, exceptions are likely to exist in specific cases, and that these cases have not been fully published or reported.

Locations of massacres

The locations where massacres were perpetrated will have an important impact not only on what physically survives, but also whether such sites are able to be relocated. Massacres were generally staged on the more isolated boundaries of the frontier rather than in the immediate vicinity of settlements where there were larger congregations of settlers (though there are some exceptions, such as at Risdon Cove). The reasons for this patterning are multiple, though not difficult to understand. As settlements grew in size and Aboriginal populations in their immediate vicinity declined (through deliberate killing, death by disease or through the tactical retreat of Aboriginal people to safer country beyond the frontier), the possibility of hostilities occurring in close proximity to townships became slimmer. Furthermore, after the Myall Creek massacre, the increased risks of violence against Aboriginal people being witnessed and reported (either in verbal or written form) served to minimise the possibility that indiscriminate killings would occur in locations with high non-Indigenous populations. In several settlements local authorities prominently displayed pictographs illustrating that such violence would not be tolerated, and while it is doubtful such measures prevented violence per se, they did have the effect of pushing it beyond the official administrative, policing and judicial system of the settlements to the less regulated frontiers (Broome 2003).

The remote location of many massacres not only reduced the likelihood of eye-witnesses, but also increased substantially the time that might elapse between the event itself and the possible discovery of the crime scene, either by contemporaries or modern archaeologists. It is still the case that much of northern Australia, whose main industry continues to be pastoralism, remains isolated and remote even today. Such landscapes are typically not well named, traversed or even known by more than a handful of non-Indigenous people, and thus relocating specific locations within them, at which massacres occurred decades ago, is challenging, a point made by Barker (2007: 9). However, exceptions are likely to exist in specific cases where there was either (a) some form of documented investigation of the event soon after its occurrence, or (b) where strong oral testimony by people (usually but not always Indigenous) with an intricate awareness of the landscape has survived. Support for the existence of such exceptions is offered by the Irvinebank massacre. In October 1884 a detachment of NMP officers allegedly killed several Aboriginal people near the mining town of Irvinebank. Local residents visited the crime scene within a day or two of the killing, and subsequently reported the event to Police Magistrate Mowbray who investigated (Genever 1996). Mowbray and the Government Medical Officer visited the site where they found burned bones, though they were ‘so badly burned that the doctor was unable to state categorically whether or not they were human’ (Genever 1996: 9). The survival of a map drawn in 1884 showing the location of the killing, along with the detailed inquest documentation, enabled the site to be relocated in 1996, at which time ash and charcoal still...
remained on the ground surface, along with several Snyder cartridges, pieces of lead bullets, buttons, tins, billy cans and other items (see also sections below on “Specific Mode of Killing Adopted” and “Treatment of Victims after Death”). The Rufus River massacre (Nettelbeck 1999) is another event where the comparatively substantial documentation (see “Perpetrators of Massacres and Specific Modes of Killing Adopted” below) affords the strong opportunity for archaeological detection. While we are not suggesting that archaeological evidence will exist in all or even most cases, the Irvinebank case study does demonstrate that in some situations it will be possible for archaeological evidence of killings to be relocated, even when more than a century has passed. Indeed, the isolation and remoteness that served to make massacres on the frontier less likely to be detected after they occurred, may also have served to protect such locations from destruction by modern development.

**Relative number of victims and the spatial distribution of events**

Related to the general location of massacres, another concern related to the potential archaeological evidence of these events is the relative number of victims and the spatial distribution of events. In response to criticism from Windschuttle (2000a, 2000b, 2002), Broome (2003) attempted to reconcile the differing statistics relating to the numbers of victims of frontier conflict, noting that historians before him had offered estimates ranging from 1500 European deaths to ca 20,000 Aboriginal deaths Australia wide (Broome 2003: 96). While he acknowledged these figures as ‘guesstimates’ only and that any frontier violence statistics ‘are certain to be inaccurate’, on the balance of available evidence they (and other such figures for specific regions) are certainly not the ‘fabrications’ alleged by Windschuttle; archaeology may offer one independent means of verifying the disputed numbers of victims in some instances. And though we will never know how many people were killed on the frontier, a very important consideration associated with the archaeological investigation of massacres will be the relative number of victims and the spatial nature of killings. As with most archaeological site types, where evidence is clustered in a discrete location, as opposed to thinly spread over a greater expanse, and the greater the abundance of that evidence, the greater the likelihood for preservation, survival, detectability and recovery.

We can consider this with specific reference to the general nature of massacres in Australia, as summarised in Table 1. We stress that even though we refer to numbers of victims in Table 1, as Rowland (2004) discussed, we are not attempting to invalidate the emotional weight of the individual killings themselves. Our use of ‘numbers of victims’ is only in order to illustrate the nature of such sites in Australia and the potential difficulty in archaeologically locating such sites when the numbers of victims are low. As illustrated, massacre events with high victim counts and a high density of skeletal and ordnance evidence (see the following section) will have the most potential for archaeological discovery and investigation. This is perhaps one reason why archaeologists have had success in North America in investigating the massacres of American Indians, where massacres often occurred as large military skirmishes with victims numbering in excess of 200 (see NPS 2000a and 2000b for examples). In the Australian context, although there are some well-known incidences where large numbers of Indigenous people were killed, such as the Battle of Pinjarra (see Cribbin 1984; Green 1995), many massacre events were staged as punitive expeditions, which involved killing small numbers of individuals, sometimes over large distances [in what Barker (2007: 10) called opportunistic ‘hit-and-run attacks’]; hence their chance of incorporation into the archaeological record is low. Further, the archaeology of such small-scale, short-lived events is also strongly affected by the treatment of victims after death (see below).

**Perpetrators of massacres and specific modes of killing adopted**

Massacres were perpetrated by a variety of people including pastoralists, farmers, miners and other civilians; in short, by people (generally men) whose livelihoods required them to reside at the frontier and who therefore were most likely to come into contact with Indigenous people. And the environment of fear in which they lived cannot be underestimated: the frontier was the stage on which settlers regularly faced what would have largely been an extremely foreign and threatening environment. This truth is clear in historical sources (see, for example, Allingham 1988: 130-1; Eden 1872; Fysh 1933; Hill 1907: 30-1), to such an extent that at times entire townships may have been abandoned through fear of Aboriginal attack (eg Gilberton

<table>
<thead>
<tr>
<th>Relative number of victims</th>
<th>Spatial distribution of the event</th>
<th>Frequency of such events</th>
<th>Example</th>
<th>Relative likelihood of archaeological recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium to High</td>
<td>Dispersed (i.e. over a large area)</td>
<td>Uncommon</td>
<td>Coniston Station Massacre, Forrest River Massacre, Battle of Pinjarra, Waterloo Creek Massacre</td>
<td>Moderate</td>
</tr>
<tr>
<td>Medium to High</td>
<td>Contained (i.e. over a small area)</td>
<td>Uncommon</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Low to Medium</td>
<td>Contained (i.e. over a small area)</td>
<td>Common</td>
<td></td>
<td>Moderate</td>
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<tr>
<td>Low to Medium</td>
<td>Dispersed (i.e. over a large area)</td>
<td>Common</td>
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<td>Low</td>
</tr>
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Table 1. Likelihood of relocating certain types of massacre events, based upon two variables: the victim count and the spatial distribution of the event.
in north QLD; see Reynolds 1993: 52). Further evidence that points to the apprehension of settlers can be seen in the archaeological record in the form of civilian architecture. For example, Grguric (2008, 2010) documented the presence of defensive, fortified structures in colonial SA and the NT, arguing such structures were testimony to the fear and need felt by settlers for defence on the frontier (see also Burns 2009).

With specific regard to north QLD, where frontier violence is widely acknowledged to have been especially brutal, Breslin (1992: 6) pointed out that settlers ‘brought with them the same ideas and attitudes which had given birth to violence and dispossession in the southern colonies’. Charles Eden (1872: 40-1) illustrated this point when he recounted his family’s journey to a remote station in 1864:

We slept as only tired men do, and at daylight Arthur started for Mount McDonnell, to get fresh horses, his last words being ‘Look out for blacks, and don’t leave Lucy’. I had not yet had any experience about the blacks and did not know or think much about them, so asked him, ‘What shall I do if they do come?’. ‘Shoot them, of course. Good-bye, old fellow!’ and away he rode. I then began to think of my position, which was far from an enviable one, with my wife and child; and ... I unable to move twenty yards away for fear of blacks attacking them.

One of the earliest homesteads along the Stawell River (near where Walker’s party had killed numerous Aboriginal men a few years earlier) was a fortified stone building ill-suited to the tropical climate, but a necessary defensive response to repeated attacks from local Aboriginal people (Wallis unpublished data). Likewise, Rainworth Fort is another example of mud and basalt blocks with rifle embrasures cut into the walls, built shortly after the Cullinla Ringo massacre (with 19 victims making it the largest killing of settlers by Aboriginals in Australian history and which was followed by massive retribution; for further details see Elder 2003). Visual depictions of violent confrontations between settlers and Indigenous people by colonial artists fed the anxiety settlers felt about the frontier (e.g. Figure 2), contributing to the general sense that settlement at the colonial boundaries quite literally meant putting one’s life on the line. Hence, it is clear that many perpetrators were psychologically vulnerable.

Other than civilians, in many parts of Australia there were also military or ‘paramilitary’ groups who perpetrated killings of Aboriginal people. These included the Mounted Police Force – responsible for the massacre at Waterloo Creek (Cunneen 2001: 54) – and more infamously the NMP of NSW and later QLD (Anon. 1880; Haydon 1911: 304, 370-1; Kennedy 1902; Loos 1982; Reynolds 1982, 1991; Richards 2008; Skinner 1975; Whittington 1964-65). While there has been debate about the level of government knowledge of, and therefore accountability for, such events, both recent and older accounts make clear that ‘dispersals’

Figure 2. Conflict between settlers and Indigenous people in Tasmania. [Attack on a settler’s hut. Possibly by James Bonwick. Rex Nan Kivell Collection: NK1300. Published with permission of the National Library of Australia.]
Ordnance and weaponry

The presence of particular types of ordnance supplied to militant-type groups such as the NMP gives rise to the potential for ‘definitive artefacts’ to be located. By definitive artefact we mean one that is tied historically to a situation, and is quite specific to that particular engagement – an excellent example can be derived from the relocation of the Sand Creek Massacre site in Colorado. Here the location was pinpointed archaeologically primarily through the recovery of a specific type of howitzer shell fragment (NPS 2000a, 2000b); the Sand Creek battle was the only engagement in Colorado history to utilise such weaponry, thus its presence in the archaeological record indicated a definitive location for the event. While the Australian context does not lend itself so easily to such interpretations, there may still be instances where the knowledge of weaponry may prove valuable. For example, until 1861 the QLD NMP were issued with muzzle loading carbines, after which they used Terry breech-loading rifles, until 1874 when they were issued with highly lethal Snyder rifles capable of killing many people quickly at great distances; the latter remained the primary weapon for the following decades (Richards 2008: 55-6). In 1884 Martini-Henry rifles were issued to the ordinary police, and Richards (2008: 56) noted that many of these deadly weapons also found their way into NMP corps. While weapons on the frontier, amongst the civilian population in particular, may have had a long use life, being able to identify the type of weaponry used by the NMP at a specific time may help to build a case for their involvement in an incident. An archaeological case in point involves the aforementioned Irvinebank massacre investigation, whereby Snyder cartridge cases, which can be aligned to the NMP at that time, were key to convincingly confirming the original site location.

Nonetheless, there will be many instances whereby specific ordnance supplies will not have been used, thereby making it difficult to unequivocally remark about a site based on the discovery of a particular type of bullet casing. It is expected that this will frequently be the case as many perpetrators are unlikely to be linked to specific ordnance, although it does not rule out locating or identifying sites based on alternative lines of evidence. Further, as much of the ordnance issued to the NMP was also available to the civilian population, evidence for its presence in a particular location may do little more than merely indicate that guns were involved. However, Richards (2008: 54-56) considered the question: ‘Did the frontier, as some historians contend [e.g. Reynolds 1993: 52], bristle with guns?’, concluding that ‘most frontier residents were armed, but rifles, revolvers and other firearms were infrequently mentioned in the historical material until the 1870s’. It is also important to point out that in pastoral areas in particular it is not uncommon to regularly locate bullet casings ejected onto the ground surface from pastoral, sport and hunting activities. In such instances, the contextual association of bullet casings with other lines of evidence, such as skeletal remains, is critical if they are to be confidently linked to massacre events.

Skeletal remains

Despite popular television programs suggesting otherwise, the cause of death can be difficult to determine from the analysis of skeletal remains alone, since death typically involves trauma to soft rather than hard tissues (Byers 2002: 257; Roberts 1996: 129). Thus, if a victim suffered shooting, stabbing or blunt force trauma, the impact needs to have intercepted bone to be apparent in their skeletal remains. Harkins (2009: 10-17) makes clear how uncommon it is for evidence of violent death to occur in the Australian Indigenous archaeological record in the pre-contact period (though see McDonald et al. 2007: 877 and Knuckey 1991), thus suggesting the presence of such evidence in the historical period might reasonably be attributed to non-Indigenous perpetrators (or Indigenous NMP acting as agents of non-Indigenous parties).

Even if bones with impact trauma are recovered, tying the death to a specific perpetrator can be challenging. As Richard Wright noted during his work on the Polyukhovich v Commonwealth War Crimes Trial, where the archaeological evidence was extensive, while it was possible to determine cause of death it was not possible to legally determine who was responsible based on that archaeological evidence (Wright 1995). The answer as to whether or not skeletal remains with evidence for violence definitively relate to a massacre event will almost certainly require the presence of supporting historical accounts or other corroborating lines of evidence.

However, the presence of skeletal remains showing evidence of gunshot trauma in Australian Indigenous skeletal remains would point strongly to either non-Indigenous perpetrators or Indigenous members of the NMP, primarily since few Indigenous people had access to such weaponry. Rev. JB Gribble was told that a settler at
Roebourne had been shown by local Aboriginal people 15 skulls of people shot dead during the 1868 Flying Foam massacre, including two of children with bullet holes in them (Gribble 1905; see also Gara 1983, 1993). Likewise, Rowland (2004) convincingly described a case related to the alleged massacre of between seven and eight Woppaburra men from the Keppel Islands in which one skull had entry and exit wounds from a low-velocity bullet (see also Pardoe and Donlon 1991). This information, when combined with that from available historic accounts, illustrates how a compelling case for a massacre must rely on escalating lines of evidence that in combination form a plausible case, though it might not be legally acceptable.

Another reputedly common form of killing on the frontier, particularly after the Myall Creek massacre, was poisoning. Pastoralists on the frontier routinely faced the prospect of their provisions being stolen when they were absent from homesteads. One response was to lace flour with arsenic or strychnine in the hope that the death of the thieves would not only prevent them from re-offending, but that others would ‘learn a lesson’ (Foster et al. 2001: 82). The likelihood of any evidence for death by poisoning appearing in the archaeological record is minimal, as the soft tissue remains of the victims generally have to be well preserved for the evidence to survive. Further, arsenic requires long term exposure to be incorporated into hair and nail tissue (Mays 1988). In the Australian context, human remains from frontier conflict events will almost exclusively be skeletonised and sometimes preserved owing to the ever-fluctuating environmental conditions. Evidence for poisoning as the particular cause of death of victims is therefore unlikely to be witnessed in any remains located through archaeological investigation.

**Treatment of victims after death**

A further factor affecting the archaeological record of massacres is the manner in which victims’ remains were treated: in essence, the natural and cultural site formation processes (Schiffer 1987). If victims were not buried soon after death, natural processes including scavenging would cause their bodies to be quickly disarticulated and scattered across the landscape. While such processes are an important consideration in any archaeological investigation, rather than exploring them further here, in this section we instead focus on cultural transformation processes more specific to frontier massacres, including burial, in mass or singular graves, attempts at destruction of evidence (such as burning), and traditional ceremonial funerary practices. These processes can alter the predicted evidence and any subsequent interpretation of recovered skeletal material, but also will require changes in approach to the investigation of such events.

As noted earlier, the Myall Creek massacre represented a major turning point in frontier conflict, and particularly the treatment of victims after death. The subsequent punishment of the perpetrators resulted in a more covert form of violence being adopted on the frontier, with greater attempts to dispose of incriminating evidence. Since it was now clear that settlers might be punished through the court system, there was greater impetus – especially for civilians though less so for the NMP – to destroy any evidence of killings having occurred. Burial of victims was one obvious option for disposing of the evidence, sometimes in mass graves:

... I found a grave into which about 20 [Indigenous people] must have been thrown. A settler taking up a new country is obliged to act towards them in this manner or abandon it. (Black as cited in Kiddle 1962:121)

The larger the grave, the greater the possibility of it being detected using such techniques as remote sensing, geophysical prospection or geochemistry. While the latter method is technologically possible, the fact that many massacres were perpetrated on the pastoral and agricultural frontiers may cause difficulties when trying to use raised phosphate levels as an indicator of mass burial or corpse decomposition (Holliday and Gartner 2007). This is because any geochemical signature may be affected by the presence of fertilizers (to improve soil productivity), which could mimic or mask increased phosphorous levels due to the presence of burials (Cavanagh et al. 1988: 67).

If graves are located one needs to then ascertain whether they were of victims of a massacre since, as discussed above, the mode of killing might not be immediately apparent. However, even without necessarily locating ordnance or other evidence of violent trauma as the cause of death, the discovery of mass graves of Aboriginal people itself in remote locations would be highly suspicious. There are some accounts of disease causing the deaths of large numbers of Aboriginal people however they may not always have been subject to burial. In Sydney for example, dozens of bodies of Aboriginal people were observed ‘laying around’ following smallpox and other epidemics (Campbell 2002), presumably because of either a lack of kin to claim and care for the bodies, or fear that anyone handling the bodies would also meet their death. The number and patterning of the skeletal remains within any multiple graves could also be informative as to their origin. Victims of violence might be expectedly to be interred in a haphazard fashion (as implied by the term ‘thrown’ in the earlier quote) with little care taken.

Another element of the treatment of victims after death is whether Indigenous people interred victims traditionally. Richards (1999), Green (1995: 135) and Roberts (2005: 200) all recount instances where the bodies of victims were recovered and subjected to culturally appropriate burial rites by their kin, suggesting this may have been common (see also Oxenham et al. 2008). If this is the case, not only will the evidence of any massacre be limited, because it will no longer be in situ at the location of the murder, but the bodies will appear to be traditionally interred; unless evidence for non-Indigenous trauma can be found on the bones or strong oral testimony exists, identifying them as massacre victims will be near impossible. Nevertheless, like with all the cases studies presented in this discussion, how complicated this makes the record will be very case-specific. Furthermore, it is strongly likely that survivors, after witnessing such violence, may not have had the opportunity to recover the
bodies of victims through fear of encountering a similar fate. And in some places there simply may not have been sufficient numbers of survivors to provide the appropriate death rites.

The issue of post-mortem treatment of victims is further complicated by the possibility that skeletal remains might be handled decades after death. For instance, Colin Pardoe (pers. comm. 24 March 2006) described a situation where young non-Indigenous men used ‘old’ Aboriginal skulls for target practice. On first examination such skulls might be interpreted as clear evidence for death by shooting, though a specialist should easily discern the difference between a peri- or post-mortem injury.

While burial was one option available to perpetrators so as to minimise their risk of exposure, they may have been disinclined to exert the necessary physical labour required for such an undertaking and, in very remote locations where outsiders were unlikely to stumble across the evidence, burial still might not have occurred. Furthermore, the racist views of some settlers with regard to the ‘non-humanity’ of their victims meant they may have not felt it was ‘appropriate’ or ‘necessary’ to afford Aboriginal people the same treatment in death as they would their Christian counterparts. In preference to burial, the burning of Aboriginal bodies, a less labour intensive though more callous practice – as it was not being practiced as a culturally acceptable ritual by kin, but by perpetrators who were simply ‘cleaning up’ with no regard for cultural norms – appears from various historical accounts to have been common (e.g. Bohemia and McGregor 1992; Elder 2003; Genever 1996; Roberts 2005; Smith 2007). Such an approach to destroying the evidence has several archaeological implications. Human bones are typically not fully destroyed by heating and, ironically, cremated bone survives better in sedimentary contexts than does unburnt bone (Hunter and Martin 1996: 96; Mays 1998: 207-8).

Hence, while burning reduces the quantity of skeletal evidence, it also increases the possibility of any remaining bone surviving archaeologically. For example, concentrations of burnt bone are known to occur at the alleged locations of the Panton (Smith 2007) and Forrest River (Elder 2003; Fitzgerald 1984; Green 1995) massacres and were also found at Irvinebank (Genever 1996). However, despite its potential for survival archaeologically, the ability to determine the origin (human or non-human) of the bone that has been calcified is very difficult (Mays 1998: 209-16; Whyte 2001: 437).

**Conclusion**

As the above material illustrates, building a case for the identification of a massacre site will be challenging and require multiple lines of evidence so as to be convincing. The general paucity of published information hinders attempts to systematically review archaeological investigations of massacre sites to date. And although Barker (2007: 12) has suggested that such studies are too risky to attempt as they ‘could ultimately fail, because even if evidence is found, it is unlikely to be of the kind that will be unequivocal’, we argue it is important to make explicit the complexities of such approaches to avoid their subsequent misuse by ‘deniers’. By critically examining available historical accounts in combination with a consideration of taphonomic process, we can better understand what physical evidence is likely to be incorporated into the archaeological record and therefore minimise the risk that revisionists will make uninformed use of such studies.

Those massacres with the greatest chance of being preserved and/or detected archaeologically will be those which:

- involved more rather than fewer victims, killed in a relatively spatially constrained area, owing to the consequentially larger concentration of associated material culture and skeletal remains;
- used death by shooting, stabbing or blunt force trauma as the mode of killing as these are more likely to have caused physical impact to skeletal remains;
- included attempts by the perpetrators to cover up the crime scene such as through burial or burning, thereby reducing the possibility of victims’ remains being disarticulated and widely scattered over the ground surface and increasing the chances of their being preserved;
- involved military or other government personnel because of the increased level of documentation associated with their activities (even if it does not specifically detail killings themselves);
- were subject to some form of inquiry soon after their occurrence, on account of this providing the contemporary researcher with a greater level of primary source material about the events and landscape in which they occurred;
- occurred either (a) prior to 1838 when perpetrators were unlikely to have been punished for their crimes and therefore knowledge of killings were more widely known and documented, or (b) in the twentieth century (and therefore by inference most likely in northern Australia) owing to the greater chance of massacre survivors or their direct descendants still being alive and able to provide oral testimony to the location and nature of events, as well as the shorter period of time that has elapsed since their occurrence; and,
- are in ‘remote’ areas lacking extensive modern development, of which local people (either Indigenous or non-Indigenous) have a excellent knowledge of the local physical landscape.

It should be remembered that because of the factors we have outlined in this paper, massacre events are unlikely to be found through random chance, and archaeological evidence alone is unlikely to provide a line of evidence sufficiently robust to silence critics who doubt the ubiquitous nature of such violence. We underline the
importance in presenting a case adopting multiple lines of evidentiary support – a hierarchy of documentary sources, oral histories, material cultural evidence and skeletal remains themselves that may allow for a massacre location to be determined at a ‘possible’, ‘probable’ or ‘highly likely’ level. Providing a detailed understanding of why evidence of a forensically acceptable level is unlikely to be preserved archaeologically may persuade some critics to accept a lower threshold for evidence of a massacre than would be required in a contemporary legal setting. Of course there will be many instances where the archaeological evidence may be lacking entirely, though given an understanding of site formation processes as we have outlined in this paper, any such absences of evidence cannot be taken as support for proving a massacre did not occur.

Interestingly, some archaeologists have more recently entered into a discussion over whether or not ‘genocidal moments’ are marked by ‘archaeological silences’ in Australia. Harkins (2009) has argued that an absence of evidence of post-contact materials in fact might be indicative of the near-total decimation of Aboriginal groups in some regions. This concept of a ‘lack of evidence’ in studies of Australian frontier conflict was pre-empted and supported linguistically by Harris (2003: 92) who remarked that ‘languages decline for a variety of reasons but sudden and catastrophic loss of languages as seen throughout Australia is typically related to aggression’. He described the marked extinction and sudden decline in several Indigenous languages – including those of Tasmania, as well as Kwainbal (NSW), Kurmai (Vic) and Yeeman (QLD) – suggesting that these languages died as suddenly as did their speakers. Furthermore, he proposed that when Indigenous people took part in extended guerrilla warfare a gradual rather than sudden loss of language would occur, such as was witnessed in the slower disappearance of the Wakay (NT) language (Harris 2003: 92). The relevance of an absence of evidence, with an understanding of how difficult it will be to both distinguish and to relocate archaeological evidence, cannot be ignored and in fact adds an extra dimension to studies of frontier violence in Australia.

Owing to spatial constraints, we have entered into little discussion of the ethical and legislative considerations of archaeological investigations of frontier massacre sites, though this is not to downplay their critical importance; we direct readers to Harkins (2009), Litster (2006) and McKewin (2006) for explorations of these matters. As Barker (2007) has pointed out, we also recognise that there are many other types of sites that can potentially contribute to an understanding of life on the frontier (e.g. pastoral stations, native police encampments, missions, ration outposts, civilian fortified architecture) (see, for example, Burns 2009; Grguric 2008, 2010) and encourage greater investigatory focus on such sites.

How archaeology can contribute to a more multi-faceted understanding of frontier conflict history is becoming more frequently discussed by Australian archaeologists. This paper adds to these debates through highlighting the inherent difficulties associated with such events becoming incorporated into the record and acknowledging their potentially restricted archaeological signature in Australia, in contrast with the situation in North America. Moreover, the number of variables contributing to the incorporation of these events into the archaeological record is large, and clearly does not afford a clear, singular model of approach for archaeological investigations. Nonetheless, with an acknowledgment of this, such investigations do not run the risk of potentially refuting that frontier massacres occurred, and in fact, are increasingly being pursued at the request of Aboriginal organisations. When handled systematically, ethically and sensitively, with the approval and involvement of the local Aboriginal community, they have the potential to provide a valuable light on this disputed and controversial aspect of Australia’s colonial history.

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