Bioarchaeology and Repatriation:
Re-Establishing Identity and Provenance of Indigenous Ancestral Remains

By

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Abstract

The aim of the thesis is to investigate the question: How can bioarchaeological methods contribute to the repatriation of unprovenanced or poorly provenanced indigenous ancestral remains? The question is addressed by employing a qualitative research approach including, the use of secondary academic sources, primary published resources and personal communications with different museum repatriation practitioners. This has provided a more detailed examination and insight into the values, meanings and perspectives regarding repatriation of indigenous ancestral remains. Throughout the research process concepts of post-processual archaeology, particularly indigenous archaeology became a focus, highlighting the importance of provenancing ancestral remains from an indigenous-led approach, as well as emphasising the importance of a more indigenous-controlled repatriation process.

The research demonstrates that bioarchaeological methods of provenancing ancestral remains can be highly successful in restoring identities and the provenance of ancestral remains. It is evident from Australian and international case studies, that information about ancestral remains can be gleaned through osteological and isotopic analysis, as well as through archival research or through analysis of related soils. Museums have in the past implemented some bioarchaeological methods, however, new and advancing methods are beginning to emerge as part of bioarchaeology and could significantly contribute in provenancing ancestral remains for repatriation.

The collaboration that has resulted from repatriation has allowed indigenous communities to begin to involve bioarchaeology in research studies. More importantly, bioarchaeology has also become more prevalent in the context of provenancing research for repatriation of ancestral remains. Bioarcheologists make significant contributions to the repatriation process, their knowledge can be extremely valuable for all stakeholders and their future engagement in the repatriation sector needs to be employed more predominantly within institutions globally, to successfully re-individualise, re-identify and repatriate ancestral remains.

As the practice of repatriation in museums becomes increasingly more difficult into the future, especially in relation to unprovenanced ancestral remains, the museum sector needs to integrate not only existing bioarchaeological methods into provenancing processes but also needs to embrace new approaches and thoroughly educate indigenous communities about the various methods available for their utilisation. Provenancing methods need to be accepted by all stakeholders, which means that changes are needed to directly engage indigenous people in

provenancing processes and acceptance of their inclusion by the museum sector. Indigenous-controlled and led provenancing needs to be further advanced into the future in provenancing ancestral remains, so that repatriation can continue to be culturally appropriate and successful for future generations.

Declaration

I certify that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Jacinta Olwyn Smith 10/08/2022

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Dedication

For Mia, Lily and Papa, for those I lost along the journey.

Inclusive Language

Throughout the thesis, inclusive language conventions have been employed, such as the capitalisation of ‘Indigenous’ when referring to Indigenous Australians, but not when referring to the original inhabitants of other countries (Monash University 2022).

Chapter 1: Introduction

Introduction

Although there have been significant numbers of repatriations globally, many indigenous ancestral remains continue to be a part of institutional collections or local indigenous community-controlled keeping places. While this has progressed the repatriation issue in Australia, a major issue still remains, that of unprovenanced or poorly provenanced ancestral remains to a vague country-wide association or region-wide geographic location, respectively. Indigenous communities are becoming more receptive to the use of scientific provenancing methods to improve provenance information about curated ancestral remains for their successful repatriation back to community, as well as to gain a better understanding of their ancestors, their ancestors' identities, their past cultural lifeways and to inform community decision-making about reburial practices.

Likewise, it is important that indigenous communities are fully informed and educated about the various provenancing methods available for their utilisation. The use of scientifically-based provenancing methods have come to be more recognised by indigenous communities as a tool to assist in the accurate repatriation of indigenous ancestral remains, but the degree to which they are used or not used by museums or communities themselves, varies between different museums, countries and indigenous communities. This will be further explored in the Results and Discussion chapters of this thesis.

The various uses, strengths and limitations of different provenancing methods will also be discussed in the following Results and Discussion chapters. These methods need to be considered on an individual case-by-case basis for all ancestral remains and the stakeholders involved in the process need to also be fully conversant with the methods available. Thus, this thesis explores these methods in detail to assist stakeholders to make these important decisions and to further explore new and emerging techniques that could be incorporated in future repatriation processes.

The relevance of the research in this thesis is timely as repatriation processes, involving unprovenanced and poorly provenanced indigenous ancestral remains become the main focus for most institutions, especially museums. Could incorporating bioarchaeological methods into repatriation provenancing processes assist in accurately returning unprovenanced ancestral

remains to their original communities and also contribute to re-establishing identities or "personhoods" for ancestral remains, for the benefit of their indigenous communities?

Research Question, Related Questions and Aims

Primary question: How can bioarchaeological methods contribute to the repatriation of unprovenanced or poorly provenanced indigenous ancestral remains?

To answer this question, the following related questions were addressed:

- What is repatriation and why is it important to repatriate indigenous ancestral remains?
- What is the discipline of bioarchaeology?
- What additional information can bioarchaeological methods provide about indigenous ancestral remains to achieve accurate repatriation?

The specific aims to address this question are:

- To understand repatriation and recognise why it is important to indigenous and non-indigenous individuals.
- To comprehend what bioarcheology can contribute to the repatriation process, in particular for unprovenanced and poorly provenanced ancestral remains.
- To understand if bioarchaeology can assist in re-establishing identities for individual ancestral remains.
- To provide a framework for indigenous communities to assist in understanding the uses, strengths and limitations of bioarchaeological methods.

Thesis Structure

The thesis is presented in six chapters. This chapter introduces the significance of the study, frames the key issues and establishes the research question for the thesis and the subsequent related questions and aims that are addressed.

Chapter 2 Literature Review provides historical and contextual information for the thesis. It introduces the history of past institutional collecting practices, the history of the Repatriation Movement and changing perspectives within the Repatriation Debate are addressed. In addition, the introduction of global legislation and guidelines and changing museum policies are reviewed, the various perceptions surrounding ancestral remains and an emphasis on the importance of repatriation for indigenous and non-indigenous stakeholders. Finally, the

discipline of bioarchaeology and its potential contributions to repatriation processes are examined.

Chapter 3 Methodology provides an overview of the methods of data collection that were incorporated into the thesis, including analysis of literature and semi-structured discussions with two non-Indigenous-museum repatriation specialists, involved in provenancing and repatriation processes. Likewise, this chapter highlights the use of case studies to understand the employment of provenancing methods globally and the incorporation of the concept of indigenous archaeology into the thesis.

Chapter 4 Results provides both destructive and non-destructive bioarchaeological methods that could be utilised to provenance ancestral remains, comparing their uses, strengths and limitations. It provides an understanding of these methods and their potential utilisation by indigenous communities, to make informed decisions about unprovenanced or poorly provenanced ancestral remains in their care. These bioarchaeological methods are presented in two tables (Appendix 4 and 5), which are divided into bioarchaeological and non-bioarchaeological based approaches to provenancing ancestral remains.

The chapter also focuses on case studies, from Australia and internationally, where bioarchaeological methods have been utilised in the past, to assist in establishing some form of provenance or re-establishment of identity for ancestral remains, from museum collections or archaeological sites. It also includes information gathered from two discussions conducted with non-indigenous museum sector specialists from different Australian museums. These discussions have been presented as two further case studies where, in the past, bioarchaeological methods have been utilised to assist in the repatriation process of ancestral remains from these institutions.

Chapter 5 Discussion affords a more in-depth examination of the bioarchaeological methods which can be applied during repatriation processes and the community benefits of restoring identities to ancestral remains, through bioarchaeological methods. Likewise, discussion regarding the future of bioarchaeology in repatriation processes in Australia is also explored in this chapter.

It is argued in the Discussion that it is important that indigenous communities are fully informed about both bioarchaeological and non-bioarchaeological based methods available for them to employ, if they want to gain further understanding of their ancestors, their past cultural

lifeways, to assist reburial practices or to aid in provenancing poorly provenanced or unprovenanced ancestral remains.

Chapter 6 Conclusion summarises the research question, aims and limitations of the thesis, provides suggestions for future research and outlines the findings of the thesis.

Conclusion

This chapter details the primary research question, related questions and aims of the thesis, as well as provides an outline of the subsequent chapters that will investigate and explore the primary research question more in depth. It likewise introduces the significance of the study, and frames the key issues regarding repatriation and bioarchaeology in relation to provenancing indigenous ancestral remains.

Chapter 2: Literature Review

Introduction

This chapter examines relevant literature to provide an analysis of global repatriation and its importance to indigenous and non-indigenous stakeholders. The key texts published on this issue are: Fforde's (2004b) *Collecting the Dead,* Turnbull's (2017) *Science, Museums and Collecting the Dead in Colonial Australia,* and Fforde et al's (2021) *Identity in Applied Repatriation Research and Practice.* This body of literature, in addition to the work of museums in Australia, provides an extensive set of issues and debates for study. This thesis will also provide insight into collecting of indigenous ancestral remains globally and the manner in which institutions, including museums, acquired their ancestral remains collections.

One of the key questions guiding this thesis is: ***How can bioarchaeology contribute to the restoration of identity to ancestral remains during repatriation***? Through utilising Pickering's (2020) *A Repatriation Handbook*, Weisse's (2021b) *From Specimen to Person*, Fforde et al's (2020) *Research for Repatriation Practice,* and Roberts' (2018) *Human Remains in Archaeology,* extensive information was gained about repatriation provenancing methods and bioarchaeological methods for identifying ancestral remains.

For indigenous communities, the re-establishing of identity, in addition to provenance, is an incredibly important component of the repatriation process which has not been explored in the literature to date. Recent works, including Weisse's (2021b) *From Specimen to Person* and Fforde et al's (2021) *Identity in Applied Repatriation Research and Practice,* have focused on the re-establishment of identity to ancestral remains and restoring identity to ancestral remains through repatriation processes. This will be explored more fully throughout the thesis by understanding how identity has been removed from ancestral remains, as part of the process of colonisation and accession into institutions, how identity has been restored through repatriation processes and the benefits of restoring identity for indigenous communities.

Likewise, through the utilisation of resources, including Fforde, Keeler and McKeown's (2020) *The Routledge Companion to Indigenous Repatriation*, Turnbull and Pickering's (2010) *The Long Way Home*, and through Fforde, Hubert and Turnbull's (2004) *The Dead and their Possessions,* the importance and various perspectives surrounding the meaning and value of repatriation for non-indigenous and especially indigenous stakeholders, is highlighted extensively.

Background

The unethical acquisition and curation practices of museums and institutions were the driving forces behind the collecting of ancestral remains, which were fuelled by racial ideologies and theories, also referred to as "scientific racism" (Donlon and Littleton 2011; Fforde 2004a; 2004b; Fforde et al. 2020; Fine-Dare 2002; Hemming et al. 2020; Pardoe 2013; Pickering 2020; Riding 1996; Turnbull 2010; 2017; 2020c; Walker 2008; Weisse 2021b). Likewise, it is evident from the literature that the global Repatriation Movement from the 1960s, led to the Repatriation Debate or the Reburial Issue within the museum sector itself. Ultimately, the impact of these debates has led to various changes, including the introduction of new legislation and guidelines for museums globally and a new focus on museum and cultural heritage policies towards repatriation. Through the involvement of indigenous peoples in decision-making and governance, as well as the museum sector gaining a better understanding of the cultural beliefs of indigenous communities and past unethical acquisition practices, improved collaboration and discussion has resulted, which has ultimately allowed for an improved relationship between these two stakeholders. The partnerships that have resulted from repatriation have over recent years, allowed indigenous communities to involve bioarchaeology in archaeological, heritage and museum research studies and in the processes of repatriation.

Historical Collecting Practices

The background into museum collections of ancestral remains, including past acquisition and collection practices, varies between different countries and museums. The literature definitively highlights that many indigenous ancestral remains in global museums were collected through unethical means, that collectors were driven by affirmation of scientific theories, ideas and practices and by the belief in the tenuous state of indigenous people under colonialism. It is clear that these practices were conducted with the knowledge that this opposed the feelings of indigenous peoples and the public alike, which is evident in the historical accounts, diaries and correspondence from this period, as well as from indigenous oral histories.

From the eighteenth through to the twentieth century, ancestral remains were acquired by both domestic and international institutions, collected by museum staff, researchers, amateur scientists, doctors, coroners, anatomists, ethnologists, explorers, pastoralists, missionaries, army and police personnel, anthropologists, archaeologists and by the general public (Australian Government 2016; Fforde and Hubert 2006; Fforde et al. 2020; 2020c; Grant et al.

2010; Pickering 2020; Weisse 2021b). Indigenous ancestral remains were generally obtained without consent from indigenous communities, gained under duress, coercion, physical violence, from persons who had no right to give consent or were taken from sites, including burial and mortuary places, graves, massacre and battle sites, gallows, hospitals, asylums, morgues and prisons (Alfonso and Powell 2007; Clegg 2020; Fforde 2004a; Fforde et al. 2020; 2021; Harris 2015; Hemming and Wilson 2010; Hemming et al. 2020; Morphy 2010; Pickering 2006; 2020; Pickering and Gordon 2011; Redfern and Clegg 2017; Turnbull 2020c; Watson 2003).

The reconstruction of the history of humanity has been implicated by historians as the predominant motivation for the collection of human remains from the eighteenth to the twentieth century, as scientists debated opposing human origin theories purported at this time (Fforde 2004a; 2004b; Fforde et al. 2020; Pickering 2020; Turnbull 2017; Weisse 2021b)**.** The two initial overarching theories identified by historians as the driving forces behind the collection of ancestral remains, were the ideas of monogenism and polygenism (Fforde 2004b; Fforde et al. 2020; Pardoe 2013; Pickering 2020). The theory of monogenism was the belief 'that all human races were of one species descended from a single pair' (Fforde 2004b:11) and from a single creation event (Fforde 2013; Fine-Dare 2002; Pardoe 2013; Turnbull 2017; 2020c; Walker 2008). This theory identified that the variety of different physical characteristics of the human body, evident in different "races" globally, had been due to their migration across the world into different environmental climates and by having access to different diets, which had inevitably caused these changes in their skeletal morphology (Fforde 2004b; Turnbull 2017; 2020c). The aim of monogenism, as Fforde (2004b:13) states, was 'to quantify human difference,' as European scientists tried to measure human diversity, through comparative analysis of the different human remains from various global locations (Fforde 2004b). In particular, scientists identified the cranium as the best indicator of morphological change driven by environmental factors and this in turn, underpinned and was the basis for the collecting of skulls by European scientists from the eighteenth century onwards (Fforde 2004a; Fforde et al. 2020; Fine-Dare 2002; Turnbull 2017; 2020c).

The antithesis of monogenism was the theory of polygenism, which identified that the different morphologies of human remains was caused by the existence of separate human species (Fforde 2004b; Turnbull 2020c). Polygenism purported that there the different "races" of humans were different species of humans, which had descended from separate originating hominin beings, from multiple creation events (Fforde 2013; Fine-Dare 2002; Pardoe 2013; Turnbull 2010;

2017; 2020c; Walker 2008). These theories into human origin and diversity developed a classification system of humankind, a racial hierarchical scale of humanity, which was believed by not only those in scientific circles but in European society generally (Fforde 2004b; 2013; Turnbull 2020c; Walker 2008).

Through the collection of indigenous crania, scientists were able to utilise comparative anatomy techniques, such as craniometry, to justify their beliefs in the inferiority of other races (Fforde 2013; Riding 1996; Turnbull 2017; 2020c). The shape of the skull and face, as well as the size and capacity of the brain were measured by European scientists to try to quantify racial difference in intelligence and cognition as objective scientific "fact" (Fforde 2004b; 2013; Riding 1996; Turnbull 2017; 2020c; Walker 2008). Likewise, crania were also analysed to understand and gain new knowledge into the causation of variation in human morphology, to map the history of human racial divergence and to reinforce that the smaller sizes of indigenous peoples' brains equated to their innate and irreversible inferiority (Turnbull 2017; 2020c).

Moreover, the development of the new scientific practice of phrenology in Europe, from the early 1820s to the late 1840s, also contributed significantly to the prolific collection of ancestral remains during this period (Clegg 2020; Fforde 2004b; Turnbull 2017). The study of phrenology focused on investigating racial differences in humans by analysing the morphology of the outer surface of their skulls (Donlon and Littleton 2011; Fforde 2004; Fforde et al. 2020; Turnbull 2010). The examination of the features, size and shape of different populations crania was considered by phrenologists to determine their mental character, including their mental development, reasoning, emotions, disposition, their intellectual capacity and qualities (Australian Government 2016; Fforde 2004b; Fforde et al. 2020; Turnbull 2010; 2017; Walker 2008; White 2011). From examination of Indigenous Australian crania, phrenologists purported that their skulls were thicker than other races, that they had a smaller brain volume and therefore, had a diminished mental capacity and that the "savagery" of Indigenous peoples was caused by specific undersized regions of their brains (Turnbull 2017; 2020c). Thus, phrenology created another avenue for collecting of ancestral remains globally and contributed significantly to the continuation of racial inferiority ideas about indigenous peoples.

Additionally, another new theory of human origin and diversity that developed during the early 1860s was Darwinism (Fforde 2004b; Pardoe 2013; Turnbull 2017). Many historians implicate Charles Darwin's *Origin of Species* for the continuation of racist ideas, specifically racial superiority, through the development of Darwin's evolutionary theory (Darwin 1906; Donlon

and Littleton 2011; Fforde et al. 2020; Pardoe 2013; Pickering 2020; Turnbull 2017; Walker 2008). Evolutionary theory, also known as Darwinism or Social Darwinism, was based on a monogenism evolutionary theory of human development, where a species evolved gradually over time by a process of natural selection (Turnbull 2020c). Darwinism was utilised by scientists during this period to explain human origin from a 'long-extinct primate species' (Turnbull 2020c:459) and the development of human diversity globally through evolution (Fforde 2004b). European scientists also argued that Darwinism supported their ideas around the stages of human cultural evolution corresponding with those of human physical evolution, perpetuating existing beliefs that indigenous peoples were "archaic" and that they were at the earliest stages of development of human evolution, termed by scientists as "living fossils" (Donlon and Littleton 2011; Fforde et al. 2020; Fine-Dare 2002; Hemming et al. 2020; Pickering 2020; Turnbull 2010; 2017; 2020c). Evolutionary theory was also emphasised by scientists to demonstrate that some humans had proceeded further along the path of "civilisation" than others and that indigenous peoples were believed to occupy the lowest rung on the racial evolutionary ladder, demonstrated through their "primitive" morphological features (Fforde 2004b; 2013; Fine-Dare 2002; Pickering 2020).

Darwinism also led to the theory of extinctionism, which supported the argument that indigenous peoples would be unable to compete with the more advanced European races under colonialism and therefore, as a result of natural selection and adaptation, would become extinct (Fforde 2004b; Hemming et al. 2020; Riding 1996; Turnbull 2017; 2020c). The threat of extinctionism of "full-blooded" indigenous peoples and therefore, their remains to study, was feared by European scientists (Knapman 2020; Turnbull 2017; 2020c) and the theory was spread exponentially, for instance, the belief in the extinction of Indigenous Tasmanian peoples was perpetuated by scientists. Thus, extinctionism heavily encouraged the acquisition of what was believed to be a diminishing "resource" and contributed to the commodification of ancestral remains (Aranui et al. 2020; Fforde 2004b; Fforde and Hubert 2006; Hemming and Wilson 2010; Hemming et al. 2020; Jenkins 2011; 2016; Riding 1996; Turnbull 2017; 2020; 2020c).

The historical acquisition and study of ancestral remains by scientists often went alongside colonial control, during times of significant power imbalances globally (DCMS 2005; Fforde 2004a; Fforde et al. 2020; Pardoe 2013; Pickering 2020; Smith 2004). Colonialism enabled the creation of museum and other institutional collections globally but more significantly, was assertion for society generally that their pre-existing beliefs in the innate inferiority of

indigenous races justified the colonial actions towards indigenous peoples globally (Fforde 2004a; Fforde and Hubert 2006; Fforde et al. 2020; Jenkins 2011; Turnbull 2020c). As Smith (2004) argues, the physical examination of ancestral remains by scientists helped to underpin government policies, including colonisation itself. Therefore, comparative anatomists through their study of ancestral remains "proved" previously understood racist beliefs held by society and these conclusions in turn, were utilised to justify actions undertaken under colonialism, such as violent treatment and dispossession of indigenous communities (Fforde 2004b; Hemming et al. 2020; Turnbull 2017; 2020c). However, these racist "truths" revealed by scientists 'were as much a product of colonial ideology, as they were integral to its existence' (Fforde 2004a:31) and thereby, created a racial paradigm (Fforde 2004b).

Both historical and contemporary literature (Fforde 2004a; 2004b; Hubert and Fforde 2004; Pickering 2006; 2020; Turnbull 2017; 2020; Watson 2003) illustrates that these collecting practices were considered illegal under the law and unethical during the nineteenth and twentieth centuries. It is clear from historical accounts, diaries and correspondence from this period, that collectors were aware that they were illegally taking ancestral remains under both British/Australian and Indigenous cultural law, but justified their actions in the name of science (Fforde 2004b; Hemming and Wilson 2010; Hemming et al. 2020; Hubert and Fforde 2004; Pickering 2020; Turnbull 2017; 2020; 2020c). It is also evident that most collectors considered that science and the pursuit of knowledge outweighed that of respect, religious sensibilities, morals and the law regarding the dead during this time (Turnbull 2017; 2020; 2020c).

Indigenous Australian ancestral remains were likewise, not accorded the same respect at this time as other non-Indigenous remains. Turnbull (2004:83) employs contemporary historical documents in his research to prove that European settlers recognised and knew that they were breaking the law and tried 'to downplay or erase [their] consciousness' of the illegality and immorality of their actions in their minds (Hubert 1989; Pickering 2020; Turnbull 2017; 2020; 2020c). This argument is supported by the findings of Fforde (2004b:64), who corroborates that contemporary records document that the majority of collectors were unconcerned about 'grave-robbing' and that some considered ancestral remains as 'trophies' (Fforde 2013:717). It is apparent, that 'the power of scientific justification provided a potent motivation for the abandonment of social control about the treatment of the dead' (Fforde 2013:719) during this period.

Additionally, records of correspondence between museum curators and their network of collectors highlights that they also generally had no objections about the manner in which Indigenous Australian ancestral remains were collected. Fforde (2004b:59) states that there is no evidence that European curators 'felt any responsibility or concern at the circumstances in which… remains were originally acquired.' The literature (Fforde 2004b; 2013; Hubert 1989; Turnbull 2017; 2020) definitively supports this argument, finding that the attitudes of the majority of curators and collectors during this time positioned the importance of science before that of the distress felt by indigenous people or the censure of the general public that collecting caused. It is apparent that the 'lack of admonishment from institutions at the methods employed by their collectors' (Fforde 2013:719) and the evident indifference generally to collecting, only reinforced the unethical acquisition practices employed by collectors.

Moreover, Jenkins (2016) has asserted that the actions of collectors was accepted at this time in society as the norm, however, it is clear from historical literature (Fforde 2004b; 2013; Hubert 1989; Turnbull 2017; 2020) that the acquisition of indigenous ancestral remains was not condoned by the general public. The public opposed the illicit collecting of human remains during this time, as evidenced by the outcry and outrage by Australian society in 1903, when the actions of the Adelaide coroner, William Ramsey Smith were uncovered (Fforde 2004b; Turnbull 2012; 2020). It was discovered that during his appointment as coroner, Ramsey Smith had been collecting anthropologically "interesting" human remains, especially those of Indigenous peoples, from post-mortem dissections he performed, to send them overseas to British institutions (Fforde 2004b; Hemming and Wilson 2010; Turnbull 2020). As Turnbull (2020) further highlights, the public were also uneasy about the collection of human remains generally and that, at times, collectors were publicly condemned and exposed to moral censure for collection of human remains. For example, Fforde (2004b:47) highlights the outcry that resulted from the 'mutilation' of the popular Indigenous figure of William Lane in Hobart in 1869, emphasising that 'it was now clear [to the general public] that Aboriginal and non-Aboriginal bodies were indecently treated in the morgue, and were subjected to the publicly hated practice of dissection' (Fforde 2004b:47). This literature definitively refutes the argument that collecting in the past was considered ethical at that time, however, the historical records reflect that these actions were generally considered illegal under the law and immoral by societal standards.

Fforde (2004a; 2004b) corroborates these findings by highlighting that many settler accounts record the objections of Indigenous Australians themselves to the desecration of burial grounds

and the removal of their ancestral remains. Historical literature and Indigenous oral histories, for example, those of the Ngarrindjeri community in South Australia (Hemming et al. 2020), document the disapproval, anger, resistance and pain, as well as the efforts made by Indigenous communities to protect their ancestral remains (Fforde 2004b; 2013; Hemming and Wilson; Hemming et al. 2020; Turnbull 2017; 2020; 2020c). Until the late nineteenth century, Indigenous people still sought to employ the law in Australia to attempt to protect and return their ancestral remains, as evidenced in the accounts recorded in Turnbull (2020) (Fforde 2004a; Hemming and Wilson 2010; Pickering 2020; Turnbull 2004; 2020).

The acquisition of ancestral remains from European scientists and institutions slowed from the end of colonial rule during the twentieth century, however, the practice of collecting ancestral remains continued throughout this period by domestic collectors and museums. Museums in Australia, up until the 1980s, continued to acquire Indigenous ancestral remains and with the ongoing development of the disciplines of archaeology and anthropology, museums became repositories for ancestral remains recovered during archaeological excavations, including museum-led research and rescue excavations associated with cultural heritage legislation (Draper 2015; Owen and Pate 2014; Pardoe 2013; Pate 2001; Pate et al. 2002; Pickering 2020; Pretty 1977; 1986). Additionally, ancestral remains were transferred to museums from private collections, from other museums or institutions that began closing to the public or were deposited in museums by the general public, coroners or the police, as authorised by heritage legislation during this time (Fforde 2004a; 2004b; Fforde et al. 2020; 2021; Harris 2015; Hubert and Fforde 2004; Pardoe 2013; Pickering 2020; Weisse 2021b).

This information is significant, as it not only provides historical context for the origin of museum collections and highlights the unethical acquisition practices from the past, but it likewise provides background information into the reasons behind the collecting of ancestral remains, including the scientific theories, ideas and practices which were pursued by scientists during this period.

The Repatriation Movement

From the late 1960s onward, debates surrounding the past acquisition and research, as well as the contemporary storage of ancestral remains in museums gathered strength globally, developing into the 'Repatriation Movement.' The Repatriation Movement involved indigenous peoples demanding accountability, recognition and control over ownership of their past through their ancestral remains and campaigning for disciplinary and institutional change,

regarding the treatment of their ancestral remains in museum collections (Fforde et al. 2020; Swain 2016; Turnbull 2017).

Predominantly from the 1960s, indigenous people directly approached museums globally to discuss historical ancestral remains housed in their collections, as well as to address more recent ancestral remains acquisitions associated with museum-led archaeological and heritage management rescue excavations, for example by urban development through construction work, including houses, bridges and roads (Fforde 2004a; 2004b; Ubelaker and Khosrowshahi 2019). The rise of the Movement globally was assisted by the formation and cooperation of indigenous community groups and organisations, which pursued intensive campaigns for the return of ancestral remains in Australia, the USA and other global institutions (Fforde 2004b; Fforde and Hubert 2006; Grant et al. 2010; Hemming et al. 2020; Jenkins 2011; Riding 1996; Turnbull 2010; 2017; 2020b; Ubelaker and Khosrowshahi 2019). Turnbull (2017) emphasises these campaigns as having been pivotal in overcoming the disinterest of the public, governments and museum sectors alike, in hearing indigenous communities' arguments for the return of ancestral remains (Pardoe 2013). This is reinforced by Harris' (2015) findings, which identify that it was the increasing demands for repatriation by indigenous communities globally, that led to expanding media attention and thus, a spotlight on museums and other institutions to justify their retention of ancestral remains (Hubert and Fforde 2004; Riding 1996; Turnbull 2004; 2010).

During the 1970s and 1980s in Australia for instance, Indigenous communities secured enough political agency, from citizenship and land and heritage rights, to reinvoke their ignored legal rights and challenge the ethical grounds on which scientists and museums were able to conduct archaeological excavations at burial places without consent and argue against the retention of ancestral remains in institutions (Hemming et al. 2020; Turnbull 2017; 2020). Prior to the 1970s, Indigenous Australians were unable to do more than have local, ineffective and unsuccessful protests (Hemming and Wilson 2010; Hemming et al. 2020; Turnbull 2020), however, the Movement proved 'integral in initiating … debates and events' (Smith 2004:406) between indigenous groups and the museum sector, regarding the ethics of holding ancestral remains collections globally and for beginning to change perceptions of ancestral remains away from them as artefacts or specimens (Swain 2007).

It is highlighted that the Repatriation Movement was an extremely significant event, for not only bringing vital awareness to governments and the public alike about the acquisition and

holdings of ancestral remains in museums but likewise, emphasise the Movement as the key factor in triggering global institutional change and ultimately, the 'Repatriation Debate or the Reburial Issue'.

The Repatriation Debate or The Reburial Issue

It is evident from the literature (Clegg 2020; Fforde 2004a; 2004b; Gilmore et al. 2019; Grant et al. 2010; Hemming et al. 2020; Hubert 1989; Hubert and Fforde 2004; Jenkins 2011; 2016; Kakaliouras 2008; Morris et al. 2002; Payne 2011; Pickering 2020; Pickering and Gordon 2011; Roberts 2019; Smith 2004; Turnbull 2004; 2017; 2020; 2020b; Walker 2008; Watkins 2003; Weiss 2009; Weiss and Springer 2020) that the Repatriation Movement triggered the Repatriation Debate, also known as the Reburial Issue, which caused vacillating attitudes within the professional (museum, archaeological, academic and scientific) sector from the 1980s onwards.

Arguments Against Repatriation

During the 1980s, the Reburial Issue escalated in the professional sector to become a major global issue, with 'many scientists in Australia and overseas [beginning to] publicly and forcefully… oppose Aboriginal claims' (Fforde 2004a:34) for return or repatriation of their ancestral remains. Mulvaney (1991), Jenkins (2011; 2016), Weiss (2008; 2009) and Weiss and Springer (2020) were, and are, predominant advocates for the retention of ancestral remains and were typically negative towards the practice of repatriation in museums. Some of the negative arguments put forward by the professional sector about repatriation during this time included:

- The loss of scientific knowledge, "material" and freedom (Fforde 2004b; Gilmore et al. 2019; Hubert 1989; Jenkins 2011; 2016; Pardoe 2013; Pickering 2020; Smith 2004; Turnbull 2020; Weiss 2009),
- Repatriation would be the end to the study of osteology and bioarchaeology, as no human remains would be left in museums in which to investigate (Fforde 2004b; Riding 1996; Weiss 2008; Weiss and Springer 2020),
- Ancestral remains needed to be able to be re-accessed for further study and examination when new and advancing questions and methods develop and could provide new information in the future (Gilmore et al. 2019; Jenkins 2011; Pardoe 2013; Payne 2011; Pickering 2020; Walker 2008; Weiss 2008; Weiss and Springer 2020),

- Ancestral remains needed to be used to study and train new students (Gilmore et al. 2019; Jenkins 2016; Pardoe 2013; Walker 2008; Weiss 2008; Weiss and Springer 2020),
- A diverse and large comparative collection in institutions is necessary for researching changing populations over time and the importance of a collection is diminished as a result of the loss of one culture (Jenkins 2016; Pardoe 2013; Pickering 2020; Smith 2004; Walker 2008; Watkins 2003; Weiss 2008; Weiss and Springer 2020),
- Research into and the publication of the results of research on ancestral remains was seen by some in the professional sector as a form of respect for human remains (Jenkins 2011; Payne 2011),
- Current researchers were not responsible for the collection of ancestral remains in the past and therefore, these collections should not be dispersed as a consequence (Hubert 1989; Hubert and Fforde 2004; Jenkins 2011; Smith 2004; Turnbull 2020),
- Ancient ancestral remains could not be claimed by modern indigenous communities, as biological descent was too tenuous to prove legitimately and no biological family exists for ancestral remains to be claimed by modern communities (Fforde 2004a; 2004b; Jenkins 2016; Pickering 2020; Smith 2004; Turnbull 2020),
- Ancestral remains have no meaning or importance from their modern communities (Fforde 2004b; Pickering 2020; Smith 2004; Turnbull 2020),
- Repatriation claims were only to achieve political means, such as the gaining of land rights (Fforde 2004a; 2004b; Hubert 1989; Jenkins 2016; Pickering 2020; Smith 2004; Turnbull 2020; Walker 2008),
- Cultural concerns should not outweigh the importance of ancestral remains to scientific knowledge for all humanity (Fforde 2004b; Jenkins 2016; Pickering 2020; Smith 2004; Turnbull 2020; Walker 2008),
- Indigenous communities were unlikely to allow the study of their ancestral remains, as they had 'strong anti-scientific beliefs' (Weiss 2009:114) and did not want questions answered that 'may be controversial or conflict with their creation myths' (Weiss 2009:114) and lastly,
- Some past acquisition of ancestral remains was with free and informed familial consent (Pickering 2020).

It is definitively illustrated in the literature (Jenkins 2011; 2016; Weiss 2008; 2009) that some in the professional sector have been resistant to changing museological practices regarding

ancestral remains, as it was felt by the sector that these were undermining traditional museological protocols, such as the preservation and protection of collections. However, many others in the sector have been more positive towards the practice of repatriation (Clegg 2020; Hemming et al. 2020; Kakaliouras 2008; Morris et al. 2002; Pickering 2020).

Arguments For Repatriation

Literature published by most in the professional sector distinctly diverges from the adverse attitudes of some authors to repatriation, such as Jenkins (2011; 2016) and Weiss (2008; 2009). These sources highlight the positive opinions towards the practice of repatriation, refuting the arguments put forward for the retention of ancestral remains in museums, including:

- Uninventoried and uncatalogued human remains found in museum collections globally undermines the argument that human remains in collections are an important resource of information (Besterman 2020; Grant et al. 2010; Hubert and Fforde 2004; Weisse 2021b),
- Ancestral remains have not necessarily been examined scientifically by institutions, refuting the argument put forward for why they should remain in institutions (Besterman 2020; Gilmore et al. 2019; Grant et al. 2010; Hubert and Fforde 2004; Pickering 2020; Roberts 2019; Smith 2004; Weisse 2021b),
- Rectifying past illegal, unethical and immoral actions, including past collecting practices and addressing past wrongs (Fforde 2004b; Grant et al. 2010; Hubert and Fforde 2004; Pardoe 2013; Pickering 2020; Roberts 2019; Smith 2004; Turnbull 2004),
- That indigenous communities wanted them returned (Fforde 2004a; 2004b; Gilmore et al. 2019; Grant et al. 2010; Hubert 1989; Hubert and Fforde 2004; Pardoe 2013; Pickering 2020; Turnbull 2017; 2020),
- Ancestral remains taken without free, prior and informed consent from communities and descendants should be returned (Fforde 2004b; Gilmore et al. 2019; Pickering 2020),
- The ancestral remains of one culture should not be treated with less respect than another cultures (Pickering 2020; Riding 1996),
- Recognition of indigenous authority to manage their own ancestral remains (Fforde 2004b; Jenkins 2011; Pickering 2020; Turnbull 2017; Watkins 2003),
- Respect for the dead and for their descendants and communities (Hubert 1989; Pickering 2020; Smith 2004; Turnbull 2017) and lastly,

- Healing and contributing to reconciliation for indigenous communities (Pickering 2020).

Thus, after initial protectiveness of the professional sector towards repatriation, which Kakaliouras (2008:50) has labelled the 'period of open mourning,' better understanding has been gained about the past unethical collecting practices and the consideration of views and cultural beliefs of indigenous communities towards the curation of their ancestral remains in museums. Therefore, this has culminated in a revolution of ethical practices in museology, as well as professional perspectives, towards support for the repatriation of ancestral remains from institutional collections (Pickering 2020; Turnbull 2017).

It is evident from the literature that the museum sectors' perspectives of repatriation have become more accepting, favourable and supportive over the last 40 years, which has ultimately resulted in the introduction of new legislation, guidelines and museum policies in favour of repatriation of indigenous ancestral remains.

Introduction of Global Legislation, Guidelines and Policies

The Repatriation Debate was pivotal in introducing legislation and guidelines regarding the curation and ethics of ancestral remains in museums globally. It is evident from the literature (Bell 2010; Cubillo 2010; Fforde 2004b; Fforde et al. 2004; Giles and Williams 2016; Hubert and Fforde 2004; Janke and Company 2018; Jenkins 2011; 2016; McManamon 2006; Morton 2020; Pickering 2007; 2020; Swain 2016; Turnbull 2017; Ubelaker 2011; Watkins 2003) that the introduction of legislation in the USA and guidelines in the UK, Australia and New Zealand, have had significant impacts on instigating new museological protocols and practices in these countries and globally. Some international and Australian legislation or guidelines regarding repatriation are summarised in Appendix 1.

These resources are important, as they provide key contextual information about new legislation and guidelines that were introduced to guide museological practices and new ethical standards in museums for indigenous ancestral remains. These sources are also important as they provide pivotal information into the main motivations behind the implementation of ancestral remains policies and practices in museums globally.

Museum Policy Changes

It is evident that the Repatriation Debate likewise resulted in the introduction and implementation of new museological policies and practices in Australia, New Zealand, the UK,

USA and Canada, regarding indigenous ancestral remains. The literature also emphasises that the very nature and role of museums changed significantly during this time (Hubert and Fforde 2004; Pickering and Gordon 2011). As a result, museums globally begun to change their policies governing both their indigenous and non-indigenous human remains collections (Fforde 2004b). Some international and Australian museum policies regarding repatriation and ancestral remains are summarised in Appendix 2.

Moreover, most museums globally have reconfigured their perspectives of their historical collecting practices of ancestral remains and the ancestral remains in their collections. Tapsell (2016:214; 2020:259) terms this as the 'licit/illicit dichotomy,' where museological perspectives of classifying ancestral remains as "licit objects" in museum collections, as well as the past collecting practices by which these ancestral remains were acquired by museums, has changed distantly. Tapsell (2016; 2020) asserts that some museums have reconfigured their perceptions of ancestral remains to an "illicit perspective," where the view of ancestral remains and their past acquisitions have changed from being acceptable and seen as legal museum "artefacts," to considering them as unethical and unacceptable, prompting repatriation processes globally. Most museums, as seen in Appendix 2, have altered their perspectives away from a licit to an illicit view of ancestral remains in their collections, whether by legislation or acceptance of ethical or moral obligations. However, it is evident from some of the museums' ancestral remains and repatriation policies, in particular the British Museum, that not all global museums have embraced this new perception of ancestral remains.

After 40 years of repatriation of ancestral remains, there is 'still uneven progress' (Supenant 2021:269) globally by museums, particularly in Europe, that are lagging behind other countries in changing their perceptions of ancestral remains and therefore, their museological practices towards repatriation processes. However, recently, repatriation has begun to gain momentum in these countries, particularly in France and Germany, and in the reconfiguring of their views of repatriation of ancestral remains to a more positive shift. Conversely, over this time repatriation has now become normalised and the standard practice for museums in Australia, New Zealand, the USA and Canada, which will hopefully become best practice for all museums globally in the near future.

Perceptions of Ancestral Remains

The different ways in which human remains are perceived, whether as objects or as the dead is different for various people and institutions globally (Fforde 2004b; 2013), as 'different people

have different attitudes to death and human remains' (DCMS 2005:3), as well as different cultural and religious beliefs (Roberts 2018). The perspectives of the museum sector, the general public and indigenous peoples themselves, need to be examined and considered to understand their views and attitudes towards repatriation of ancestral remains.

Museum Sector Perspective

Fundamentally, 'the role of the museum is to further the pursuit and dissemination of knowledge. One core commitment [is] to protect material in perpetuity… for the purposes of research, dissemination and education' (Jenkins 2011:2). Thus, human remains in museums have been researched, displayed and seen as educational "objects" since museums developed from the eighteenth century onwards (Fforde et al. 2021; Jenkins 2011; Pardoe 2013). Indigenous ancestral remains in particular were displayed and curated during the nineteenth century, in geographical, zoological, natural history, anthropological and archaeological collections (Fforde and Hubert 2006; Fforde et al. 2020; Pickering 2020).

To many scientists, human remains have been seen as artefacts for research or as biological sources of data about the past, with no relationship to any living populations (Fforde 2004b; Grant et al, 2010; Jenkins 2016; Morphy 2010; Pickering 2020; Supenant 2021; Tapsell 2016; 2020; Turnbull 2020; Walker 2008; Weisse 2021b). Therefore, through their analysis and study, ancestral remains in various institutions have become objectified, as an object for scientific study (Alfonso and Powell 2007; Aranui 2020; Besterman 2020; Fforde 2004a; Jenkins 2011; Walker 2008). Weisse (2021b) identifies this process as the decontextualisation and objectification of ancestral remains, where they 'have lost most or all forms of identity and personhood, becoming objects in collections, with their original meaning usurped, and new meaning superimposed by institutions' (Weisse 2021b:20).

Scientists have been able to distance themselves from the humanity of the human remains they examine, by treating them as scientific specimens or viewing them as artefacts devoid of sacred or spiritual meaning (Cassman and Odegaard 2007; Harris 2005; Jenkins 2016; Morphy 2010; Pickering 2010b; Roberts 2019; Tapsell 2016; 2020; Tarle et al. 2020) and thus, further dehumanising and depersonalising them in the perceptions of the museum sector (Walker 2008). As emphasised by Weisse (2021b:9) 'once housed in institutions, ancestral remains' use and meaning continue[d] to evolve and change, with many becoming anonymous.'

The moral and ethical responsibility to treat ancestral remains appropriately by museum professionals was not implemented in the past, which is evident from past anatomical storage

practices in museum collections and biased anatomical acquisition practices. Weisse (2021b:21) states that 'once housed in collecting institutions, [ancestral] remains… have been stored with an emphasis on their physical traits,' often by types of diseases, ethnicity or individual skeletal element for comparative analysis and anatomical teaching purposes. This was evident in the anatomical storage at the South Australian Museum, Adelaide, the 'Edinburgh Collection' at Edinburgh University, Scotland and the 'Murray-Black Collection' located between the Australian Institute of Anatomy, Canberra and at the Anatomy Department of the University of Melbourne (Fforde 2009; Pardoe 2013; Robertson 2007; Weisse 2021b). Likewise, the specific acquisition practices, in particular by George Murray Black, of collecting ancestral remains with specific pathological abnormalities or injuries, has caused significant bias in collections and thus, resulted in their storage as anatomical skeletal elements and not as once living, complete individuals (Pickering 2010b; 2015; 2020; Robertson 2007).

Through repatriation, greater communication has resulted between museum professionals and indigenous peoples, which has assisted in professionals gaining greater understanding into the meanings and values of ancestral remains to indigenous communities. Thus, this has resulted in the ongoing cessation of the objectification of human remains in institutions globally, reminding the museum sector that 'human remains are not just another kind of excavated find, they are the remains of people' (Payne 2011:9), that they are charged with emotional meanings, should be treated with dignity and respect and that they should have special categorical consideration within museum collections (Cassman et al. 2007; Roberts 2019; Swain 2016; Tapsell 2020; Walker 2008).

This is evident currently in Australia, with the acceptance of museum philosophies surrounding the care and treatment of ancestral remains. Museums across Australia have accepted the philosophy that Indigenous ancestral remains are only in their care, that they are the temporary custodians of ancestral remains and are not owned by the museum itself (Besterman 2020; Pickering 2020). For example, ancestral remains are only held prior to their subsequent repatriation to community, as evidenced by the deaccessioning of ancestral remains in some museums (Besterman 2020; Pickering 2020; Tapsell 2016; 2020). Likewise, the education of students globally, in the museum, archaeology and anthropology disciplines has also changed, with the adoption of the philosophy that 'the study of human remains is a privilege and not a right and must be conducted with respect [to preserve] the dignity of the remains' (Gilmore et al. 2019:442) which are studied.

Public Perspective

Different cultures globally have a wide range of beliefs and views about what should and should not be done with human remains and there are even different beliefs within a culture or within the same religion about the treatment of the dead (Hubert 1989; Roberts 2018; Walker 2008).

In general, society's feelings about human remains are highlighted by Payne (2011:9) in that 'many living people feel close links with particular human remains, links of kinship, of association, of place, of culture or of religion, and may feel that it is wrong to disturb or study [human remains].' Likewise, Swain (2007) also highlights public opinion about the dead, with his conclusion that society accepts that human remains are valued but that these values are distinct and different to various communities and peoples globally at different times throughout history and currently (Squires et al. 2019).

A public survey conducted by English Heritage, now Historic England (BDRC 2009), provides a significant insight into contemporary public opinions, in particular regarding the curation of human remains in UK institutions. It is evident from the survey, that the overall UK public has overwhelmingly positive views regarding the curation, research and display of human remains in museums, as long as they are not under 100 years old (BDRC 2009). Walker (2008:15) corroborates these findings by emphasising that 'most of the world's population views human remains with a mixture of morbid fascination,' however, not all global societies concur with these conclusions. Growing outcry for the repatriation of ancestral remains by indigenous communities globally grew from the 1960s onwards and as Turnbull (2020:931) highlights, 'in a climate of growing public support.' During this time there was increasing public consensus and support for repatriation, predominantly in New Zealand, the USA and Australia (Bowdler 1992; Pardoe 2013).

Indigenous Peoples Perspective

Indigenous communities globally have a diverse range of cultural values, mortuary practices and religious beliefs about their ancestral remains. For example, Indigenous Australian ancestral remains were traditionally disposed of in a variety of ways in the past, with a range of different mortuary rituals and ceremonies among many different Indigenous communities, documented in many contemporary sources (Hubert 1989; Turnbull 2017). Collectively, indigenous people globally believe similarly that the dead should be left undisturbed and it is likewise understood, that indigenous peoples consider human remains to be that of their

ancestors and that these remains have never been without identity to their communities and continue to be powerful links or connections with their ancestors to the past (Aranui 2020; Ayau 2005; Creamer 1990; Gilmore et al. 2019; Hubert 1989; Riding 1996; Smith 2004; Turnbull 2017; Walker 2008; Weisse 2021b).

Indigenous perceptions of human remains are consistent in the fact that they are considered to be their 'ancestors, whose spirits expected on their release from their bodily form [death] to return to the care of the land' (Turnbull 2017:353) or to move from one physical world into the next spiritual one, an afterlife (Gilmore et al. 2019; Weisse 2021b). As Atkinson (2010:18) clearly expresses, repatriation of Indigenous Australian ancestral remains would mean the 'return [of] my people home so their spirits can rest at last,' cultural beliefs which are likewise supported by indigenous Maori and Native Americans, in that they also believe that the spirits of their ancestral remains cannot rest until they are returned to their *iwi* (nation, tribe or country) or tribe, respectively (Aranui 2020; Gilmore et al. 2019; Riding 1996; Tapsell 2016; 2020). The response to human remains of both the distant and recent past differs between cultures and religions but to indigenous peoples, the age of ancestral remains does not change the intensity of the link to their ancestors (Aranui 2020; Smith 2004; Walker 2008).

Indigenous Australians accept that it is their responsibility to ensure that their ancestors' remains are treated appropriately and that they are obligated, culturally and spiritually, to return their ancestral remains to their original communities, from all institutions globally (Ayau 2005; Cubillo 2010; Fforde 2004b; Pickering 2020c; Riding 1996). Turnbull (2020b:465) highlights the significance of repatriation to indigenous communities, including Indigenous Australians, by emphasising that they believe 'that the removal of the dead is believed to be a wound that the land suffers, for it knows that their spirits will stay in proximity to the remains of their body in torment until they are returned to its care' and that the health and fortunes of the current living community is dependent on the return of their ancestral remains spirits back to the land (Campton and Lane 2020; Fforde et al. 2020d; Riding 1996; Turnbull 2017; 2020b; Walker 2008; Weisse 2021b). Moreover, many indigenous communities consider the retention of their ancestral remains in museums to be at opposition with these beliefs, as they are symbolic to indigenous people of their past subjugation under colonialism, because of the means in which they were collected (Fforde 2004b; Morphy 2010; Parker Pearson 2009; Riding 1996; Smith 2004; Tapsell 2016; Weisse 2021b).

It is evident that there are differing perceptions and attitudes about ancestral remains, from the museum and public sectors, as well as indigenous peoples themselves, however, the spirit or personhood of ancestral remains is an incredibly important part of their collective beliefs and a significant reason behind their support for repatriation.

Identity and Personhood

Personhood or identity 'is a term of diverse meanings that can encompass, for example, individual or social [character], cultural affiliation, geographical place… and racial or ethnic identity' (Fforde et al. 2021) but can also encompass both spiritual and national connections (Weisse 2021b). A person's identity is created by themselves throughout their lifetime as they grow and change but is also what they project of themselves to others (Weisse 2021b). Re-establishing the identities of ancestral remains is incredibly important to indigenous peoples and can be restored through provenancing research through the practice of repatriation (Fforde et al. 2021).

The identity of ancestral remains was initially stripped from them through their removal from their original geographic and cultural environment, which caused them to lose their meaning (Weisse 2021b). This was exacerbated through the accessioning of ancestral remains into museums and the procedures that re-identified ancestral remains, by being identified by catalogue or specimen number, as a museum artifact, rather than as past human beings (Weisse 2021b). Fforde et al (2021:256) defines this process as an 'object-identity transformation,' where ancestral remains are stripped of their original identities as past human remains and transformed into objects, specimens or artifacts in museum collections (Cassman and Odegaard 2007; Harris 2005; Jenkins 2016; Morphy 2010; Pickering 2010b; Roberts 2019; Tapsell 2016; 2020; Tarle et al. 2020). Furthermore, museum curatorial practices led ancestral remains to be labelled, boxed up and stored as any other type of object in museum collections, causing them to lose their humanity and become anonymous (Weisse 2021b). The practices of accessioning and curatorial storage and display, not only removed the identity of ancestral remains but also caused them to be perceived by the museum and public sectors alike, with disassociation (Fforde et al. 2021).

Some museums in the past stored ancestral remains anatomically by individual skeletal element, by ethnicity or type of diseases prevalent on the ancestral remains. This is evident from the anatomical storage of ancestral remains at the South Australian Museum, the 'Murray-Black Collection' and the 'Edinburgh Collection' (Fforde 2009; Pardoe 2013; Robertson 2007;

Weisse 2021b). In museum collections ancestral remains were not kept as individual complete skeletons but were divided and stored by individual skeletal elements (Hayflick and Robbins 2020; Weisse 2021b), physically disarticulating the ancestral remains and increasing their disassociation from their humanity, identity and individuality. Ancestral remains were categorised, traded, exchanged and loaned by museums globally (Aranui et al. 2020; Fforde 2004b; Fforde and Hubert 2006; Harris 2005; Smith 2021; Weisse 2021b), further dehumanising and depersonalising them (Weisse 2021b). They were objectified through their display to the public and for their use as specimens for scientific research (Fforde 2004b; Grant et al, 2010; Jenkins 2016; Morphy 2010; Pickering 2020; Supenant 2021; Tapsell 2016; 2020; Turnbull 2020; Walker 2008; Weisse 2021b).

Lastly, the loss of ancestral remains associated documentation and museum archive information over time, has also contributed to the loss of identities for ancestral remains, as they became separated from their original provenance information. Details of ancestral remains, including names, locations or indigenous communities, became separated, disregarded, erased or faded over time from ancestral remains, due to movement, transfer or poor curatorial recording or management. This may have occurred initially at the accessioning of ancestral remains into museums or outside museum contexts, when ancestral remains were acquired or traded by collectors and 'passed between various people in the "collecting chain"' (Fforde et al. 2021:256). Likewise, when museums or departments in institutions closed, their ancestral remains collections could be dispersed or transferred without their original catalogues or provenance documentation to new museums or ancestral remains could be placed into storage and forgotten about over time (Fforde et al. 2021). This lack of associated information caused ancestral remains to become stripped of their cultural and personal identities (Fforde et al. 2021). Yet, it is through the processes of repatriation that these identities are being restored and re-established for ancestral remains globally.

Repatriation

Since the 1980s, Australian museums no longer contested the ownership of ancestral remains and since this time, have been actively repatriating Indigenous ancestral remains back to communities. The first repatriations of ancestral remains in Australia were of named individuals, such as Truganini, of individuals who could be traced by cultural or biological descent back to Indigenous peoples or were of ancestral remains obtained through unethical means in the past (Clegg 2020; Fforde 2004a; 2004b; Parker Pearson 2009; Turnbull 2020).

For instance, in 1983, the South Australian Museum returned the remains of four individuals from South Australia from their collection back to their communities, in 1986, the National Museum of Australia repatriated its holdings of Tasmanian ancestral remains back to their community, in 1988, the ancestral remains of more than 150 individuals were repatriated and reburied in Broadbeach, near the Gold Coast in Queensland, as well as in 1992, LM1 or "Mungo Lady" was repatriated to the Lake Mungo indigenous community in western New South Wales and in 1995, the return of the Kow Swamp ancestral remains were repatriated from the Museums of Victoria to their Indigenous community in northern Victoria (Figure 1) (AIATSIS 2016; Aird 2002; Bowdler 1992; Bowler et al. 2003; Elvery et al. 1998; Fforde 2004a; Finkel 1998; Hemming et al. 2020; Jenkins 2011; Larkins and Young 2015; Mulvaney 1991; Pardoe 2013; Pickering 2020; Smith et al. 1981).

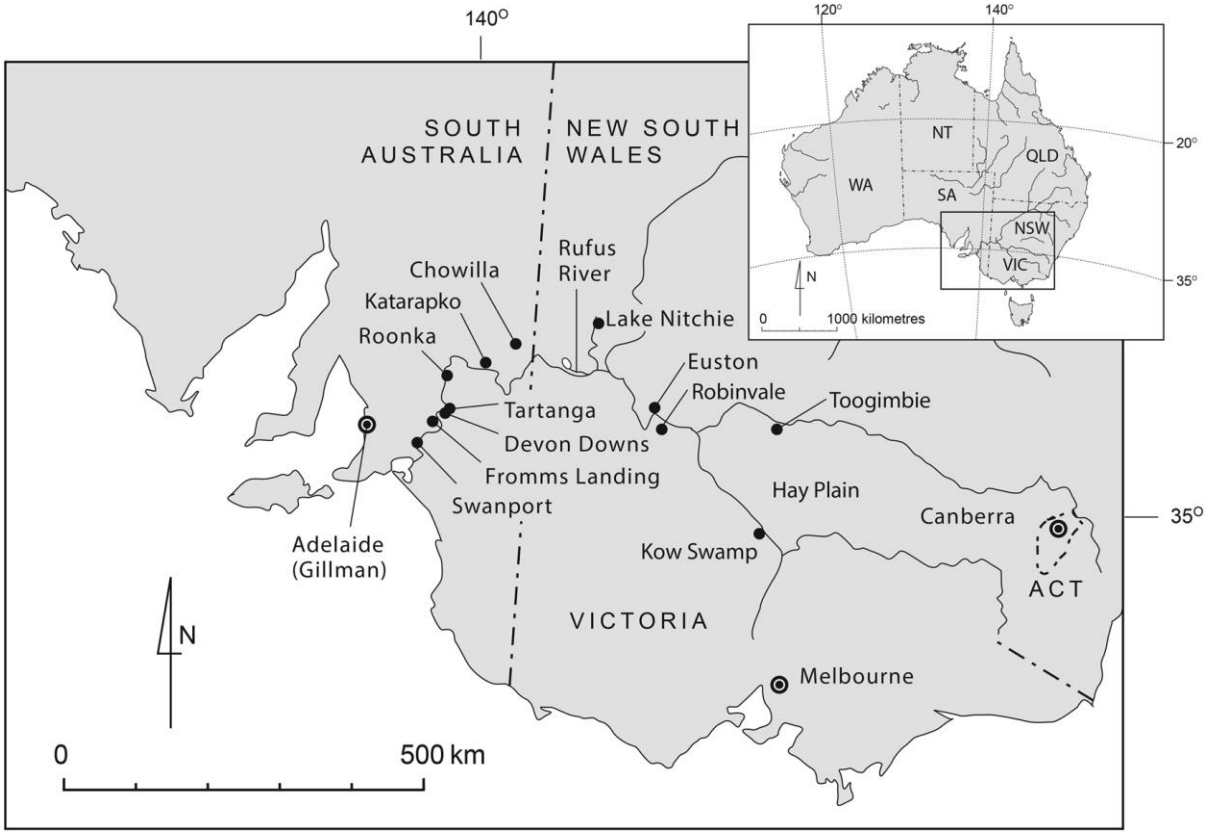

Figure 1. Map of some of the locations in South Australia, New South Wales and Victoria mentioned in the text (A preliminary redating of the Holocene Roonka burials, south-eastern Australia, Littleton et al. 2017, reprinted with permission from John Wiley and Sons:99).

During the late 1980s and throughout the 1990s, not only were Australian museums repatriating ancestral remains back to Country but likewise, ancestral remains from overseas, such as the 1991 and subsequent 2000 and 2008 repatriations of 604 individual Indigenous Australian

ancestral remains from The University of Edinburgh, begun to be repatriated back to Australia for reburial (Cubillo 2010; Fforde 2004b; 2009; Fforde et al. 2020; Pickering 2010; 2020; Wilson 2009). Additionally, in the UK during the 1990s, the first repatriations of ancestral remains were returned to Australia, Canada and New Zealand (Fforde and Hubert 2006; Jenkins 2011).

The literature also provides insight into the contemporary number of ancestral remains, which have been repatriated back to their Indigenous communities, both domestically and internationally. For instance, museums in Australia have returned more than 2710 ancestral remains to Indigenous communities from museums, including the South Australian Museum and the National Museum of Australia (Figure 2) (Australian Government Office for the Arts 2020). Internationally, repatriations from overseas institutions, as of November 2019, nine separate countries have returned 1600 ancestral remains back to Australia (Aboriginal and Torres Strait Islander: Repatriation 2019; Grant et al. 2010). For example, the USA has repatriated at least 100 of their Indigenous Australian ancestral remains back to Australia (McKeown 2021).

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Link: https://www.abc.net.au/news/2021-12-07/kaurna-aboriginal-ancestral-remains-laid-to-rest/100680848

Figure 2. Kaurna community reburial ceremony at the Kaurna Wangayarta Memorial Park, Adelaide, South Australia, December 2021, featuring Kaurna ancestral remains bundles repatriated from the South Australian Museum (Mullins 2021).

Impacts of Repatriation

The positive impact of repatriation and reburial of indigenous ancestral remains has been considered by both museums and governments as a form of reconciliation and atonement for the negative impacts of colonisation globally, such as the collecting of ancestral remains, but has also been seen by indigenous communities themselves, as recognition of regaining control and authority back over their ancestral remains (Besterman 2020; Fforde 2004b; Fforde et al. 2020d; Harris 2015; Hemming et al. 2020; Jenkins 2016; Morton 2020; Pickering 2020; 2020b; Smith 2004; Watson 2003; Weisse 2021). Atkinson (2010) emphasises the easing of pain felt by and the restoring of pride and self-respect of Indigenous Australian communities through repatriation processes, as well as ultimately, from examination of the literature, repatriation representing to many indigenous and non-indigenous peoples, recognition of the common humanity of people in respecting the dead (Fforde 2004b; Turnbull 2017). Turnbull (2020:937) reinforces that repatriation 'contributes to well-being of communities by invigorating cultural identity, which in turn has strengthened the resolve of communities to overcome the many detrimental legacies of colonialism.'

It is evident also that the practice of repatriation has enabled cooperation and collaboration between archaeologists and the museum sector with indigenous communities (Smith 2004; Ubelaker and Khosrowshahi 2019; Watkins 2003). Smith (2004) suggests there has been a global shift in archaeology towards consultation with indigenous peoples and that trust and respect have developed between archaeologists and indigenous communities as a result. Thus, this trust has enabled new insights, ideas and scope in archaeological research and new opportunities for community-driven projects, for instance the Fitzroy Crossing Cemetery project, located east of Broome, northern Western Australia in 2018 and the Flinders Group project, in northern Queensland from 2015 to 2018 (Figure 3) (Adams et al. 2020; 2021; Bamford 2017; NCIG 2019; RPS Group 2021; Storer 2018; Supenant 2021).

Figure 3. Map of Cape York showing some locations mentioned in the text (Giving it a burl: towards the integration of genetics, isotope chemistry, and osteoarchaeology in Cape York, Tropical North Queensland, Australia, Collard et al. 2019, Taylor and Francis Group, © copyright 2023, reprinted by permission of Informa UK Limited, trading as Taylor and Francis Group, http://www.tandfonline.com:603).

Moreover, museums have also gained new insights and knowledge into indigenous cultures, the meanings and values of artefacts in their collections and ongoing development of indigenous support for the scientific study of archaeologically derived ancestral remains and others historical remains already held in museum collections, through various collaborations with communities (Hemming et al. 2020; Pate et al. 2002; 2003; Turnbull 2017; 2020; Westaway et al. 2004). These collaborations have led to mutual educational projects, museum policy and content development, new research projects, as well as new exhibitions in museums, where communities have been able to participate, present and share their cultures, histories, lives and experiences, in the past and present, from their perspectives (Hemming et al. 2020; Pickering 2007; 2020b; Turnbull 2017; 2020).

To indigenous peoples, repatriation represents the ‘determination of the living to honour their cultural obligations to the dead’ (Turnbull 2017:363), with the culmination of the ultimate goal

in gaining back control over 'the right to decide whether or not their ancestral remains should be studied' (Turnbull 2017:363) or returned and reburied. Retention of ancestral remains in museums has caused much anguish for many communities but through repatriation, indigenous peoples not only feel that it is a first step in restoring their dignity but likewise, it is about making their people whole again through the return of their ancestors (Harris 2015; Turnbull 2017). Through repatriation and reburial, the healing process can begin for indigenous peoples (Fforde et al. 2020b) and signifies to communities that their ancestral remains can 'finally rest in peace in their homelands' (Australian Government 2016:4).

Over the last 40 years, the emptying of museums of human remains has not resulted, as was feared by some in the professional sector (Weiss 2008; Weiss and Springer 2020) and as Fforde (2004b:164) notes, 'far from being the "death" of archaeology and physical anthropology, the repatriation issue may be the process which enables these disciplines [archaeology, anthropology, museology and cultural heritage] to develop a practice that by being inclusive of those whose remains they study, reaches a wider audience and goes someway toward being a benefit "to all humanity".'

Bioarchaeology

Bioarchaeology (also known as osteoarchaeology) is a sub-discipline of physical or biological anthropology and archaeology, which is a multidisciplinary, multi-method approach to answer questions about the past from skeletal remains (Roberts 2018; 2019). Bioarchaeologists 'excavate, analyse, curate and actively work with human remains' (Roberts 2019:139), using both macroscopic and microscopic methods of analysis, to be able to give a "voice" to the dead and for the dead to be able to tell their "life stories" (Roberts 2019; Weiss 2008). The study of bioarchaeology fundamentally involves the analysis, non-destructive and destructive methods, to study human remains of past individuals, communities, groups and populations. To a bioarchaeologist, human skeletal remains are more than just biology, as they are a highly informative source about the past (Larsen 2015; Schrader 2019).

Bioarchaeological analyses are helping to provide evidence about past populations and about humans themselves, but likewise, the study of an individual skeleton can enable our understanding of the lived experience of a person in the past (Kakaliouras 2008; Schrader 2019; Walker 2008). Schrader (2019:6) states, that a skeleton can reveal 'changes throughout the life course [of an individual], recording dramatic and acute events like violent encounters and pathological conditions, but also many mundane and gradual processes, such as physical

activity and diet,' which provides a 'chronicle of life events transcribed on bones' (Schrader 2019:6).

Bioarchaeologist can examine skeletal remains for indications of sex, age at death, geographical origin, height, health or pathological conditions (such as illnesses, diseases and malnutrition), stresses, accidents or violence (for example, broken bones), diets, growth and activity patterns, occupation markers, various cultural or mortuary rituals and practices and can also interpret the history of medicine and medical treatments from the past (Bass 2005; Buikstra 2019; Buikstra and Ubelaker 1994; Gilmore et al. 2019; Hubert 1989; Hubert and Fforde 2004; Jenkins 2016; Larsen 2015; Mays 2011; Morphy 2010; Morris 2007; Museum of London 2011; Richardson 1994; Roberts 2018; 2019; Roberts and Manchester 2010; Schrader 2019; Stone 2018; Walker 2012; Weiss 2008; Weiss and Springer 2020; White et al. 2012). Likewise, bioarchaeologist can study cranial or skeletal morphology, which can be used to understand relationships between populations and population movements, as well as bone strength, isotopic information from bone and tooth enamel (which can provide information about the diet, geographic origins of an individual and migration patterns) and they can extract ancient DNA (aDNA), which can be used to determine sex, detect diseases that might not affect the skeleton, understand both human and disease origins and evolution or the relationship of individuals to each other, such as in a cemetery setting (Cybulski 2011; Giles and Williams 2016; Hubert and Fforde 2004; Larsen 2015; Mays 2011; Museum of London 2011; Roberts 2018; 2019; Ubelaker 2011; Weiss 2008; Weiss and Springer 2020). These methods can be utilised by bioarchaeologists to interpret not only how a person died but more importantly, how a person lived (Stone 2018). Importantly, these studies can provide, as Schrader (2019:6) terms, an 'osteobiographical approach,' where human remains can become a highly informative source of information about the life history, demography, socio-economic status and more significantly, the identities of people in the past (Giles and Williams 2016; Roberts 2019; Spake et al. 2020; Stone 2018).

It is evident from the literature and as stated by Swain (2007), that the skeleton is the most information-rich and bias-free type of evidence that can be obtained archaeologically, as most archaeological methods examine artefacts, features, sites or landscapes, which can provide information or evidence about past groups and populations but can make it difficult to obtain individual level information about the lives of past people. Human skeletal remains can thus provide a 'detailed material record of actual physical interactions that occurred between …

[people] and their natural and sociocultural environments' (Walker 2008:15), which Hubert (1989:133) states, is 'data which cannot be obtained from any other source.'

The Role of Bioarchaeology in Repatriation

It is apparent that through the involvement of indigenous peoples in decision-making and governance and through better collaboration and discussions between the museum and archaeological sector with indigenous communities, this has ultimately resulted in a better relationship between these two stakeholders (Pickering 2007). The trust and mutual respect that has developed has allowed indigenous communities to begin to involve bioarchaeology in research studies and in the processes of repatriation, for instance with indigenous communities becoming directly involved in the excavation of ancestral remains at archaeological sites and providing support for the scientific study of these remains and other historical remains already held in museum collections (Adams et al. 2019; 2020; Bamford 2017; Collard et al. 2019; Draper 2015; NCIG 2019; Owen and Pate 2014; Pate 2000; 2001; 2006; 2008; Pate and Crawford 2001; Pate and Owen 2013; Pate et al. 1998; 2002; 2003; 2011; Phillips 2019; Pretty 1977; 1986; Pretty and Kricun 1989; RPS Group 2021; Storer 2018; Turnbull 2017; 2020b; Westaway and Burns 2001; Westaway et al. 2004; Wright et al. 2018). This will be further explored in the Results and Discussion chapters.

Conclusion

This chapter has provided an understanding about what repatriation is, why repatriation is important for different stakeholders, as well as introduced the practice of bioarchaeology and its significant contributions to provenance research and the re-identification of human remains through various methods. Further research and consideration of bioarchaeology is required, so we can identify individuals and their original provenance, to assist in the processes of repatriation and community-based archaeological research, which will be fully analysed in the Results and Discussion chapters. It is evident that bioarchaeology could contribute significantly to the provenancing and reunification of disassociated ancestral remains from museums and other institutional contexts, as well as more importantly, be able to restore the identities of individual ancestral remains before they are reburied by their communities.

Chapter 3: Methods

Introduction

This chapter focusses on the methodologies utilised in the thesis, including the theoretical framework and the methods of data collection that were employed, including analysis of literature and anecdotal evidence (informal discussions with non-indigenous museum repatriation specialists, involved in provenancing and repatriation processes). Case studies were also identified and analysed in the thesis for their relevance to understanding provenancing methods for ancestral remains globally and the limitations of the methodologies employed in the thesis are also highlighted in this chapter.

Theoretical Framework

The thesis employed a qualitative research approach (Bernard 2017; Blair 2016) to provide a focus on meaning and perspectives, rather than on numerical data. Secondary academic sources were utilised for the qualitative analysis of the research, to supplement primary published sources, which enabled the extent of the scope of information surrounding repatriation practices and provenancing methods to be better understood and definitively explained. The personal communications conducted with different museum repatriation practitioners also enabled the gaining of first-hand information and experiences from these individuals, regarding repatriation and provenancing from a museum context. The important up-to-date knowledge, included information about their current ancestral remains holdings and the past and current provenancing methods employed by these museums for poorly provenanced or unprovenanced ancestral remains in their care. This information in not usually publicly available, so it was necessary to include this in the thesis to assist in addressing the research question.

The theoretical scope in which the research is situated is in post-processual archaeology, particularly indigenous archaeology, which considers the application of theories and methods in archaeology with or for indigenous peoples as best practice (Colwell-Chanthaphonh et al. 2010; Harris 2005; Jackson and Smith 2005; Smith and Wobst 2005; 2005b; Trigger 2014; Wilson 2007; Zimmerman 2005). Indigenous archaeology became a focus in the thesis, as this approach allowed for the thesis to highlight the importance of provenancing ancestral remains from an indigenous-led focus, such as incorporating indigenous knowledge into provenancing methods, as well as emphasising the significance of a more indigenous-controlled repatriation process.

Likewise, adopting a critical theory framework (Denzin et al. 2008) allowed for consideration of the impact of colonisation on indigenous identity, particularly to the death, collection and study of indigenous ancestral remains (Fforde et al. 2021; Weisse 2021; 2021b).

Methods of Data Collection

Two methods of data collection were incorporated into the thesis, including analysis of literature and anecdotal evidence (informal discussions with non-indigenous museum repatriation specialists, involved in provenancing and repatriation processes). Case studies were also identified and analysed for their relevance to understanding provenancing methods for ancestral remains globally.

Analysis of Literature

The analysis of literature involved the gathering of information from a range of different published and unpublished sources. These sources and the themes or information gathered from these are summarised in Appendix 3.

These resources were examined, compared and critiqued to provide a historical and contextual analysis for the research, to situate the thesis in past and current debates surrounding the topics of repatriation and provenancing processes, as well as to highlight the historical collecting practices of museums, the study of bioarchaeology and its uses, limitations and the current methods utilised in provenancing processes. This research is primarily focused in Australia, but is linked internationally with research from New Zealand, Canada, the USA and UK, regarding these key topics.

The result of the analyses highlighted key themes that are central throughout the thesis. These include:

- the use of alternative provenancing methods, such as the efficacy of the incorporation of bioarchaeology and traditional indigenous knowledge to the repatriation of ancestral remains (Australian Government 2018; Australian Government Office of the Arts 2021; Bass 2005; Buikstra and Ubelaker 1994; Clegg 2020; Fforde 2009; Fforde et al. 2020; Giles and Williams 2016; Harris 2005; Henson et al. 2019; Janke and Sentina 2018; Larsen 2015; Mays 2010; Ormond-Parker et al. 2020; Ousley and McKeown 2001; Pardoe 2013; Pate et al. 2002; Pickering 2015; 2020; Roberts 2018; 2019; Roberts and Manchester 2010; RRR 2020; Smith and Hirst 2019; Squires et al. 2019; Ubelaker

2011:536; Weiss and Springer 2020; Weisse 2021; 2021b; White et al. 2012; Wisely et al. 2004);

- the idea of re-establishing or restoring identity during repatriation processes through bioarchaeological methods (Fforde et al. 2021; Weisse 2021; 2021b); and
- the concept of post-processual archaeology, including application of indigenous archaeology to poorly provenanced ancestral remains in the repatriation process (Colwell-Chanthaphonh et al. 2010; Harris 2005; Jackson and Smith 2005; Smith and Wobst 2005; 2005b; Trigger 2014; Wilson 2007; Zimmerman 2005).

Anecdotal Evidence

Two informal discussions were conducted with non-indigenous Australian museum repatriation specialists, who have had experience in provenancing and repatriation processes associated with Indigenous Australian ancestral remains. Discussions or correspondence were conducted with the two participants, following the Australian Institute of Aboriginal and Torres Strait Islander Studies ethical research guidelines (AIATSIS 2012), either face-to-face or via email. The face-to-face interview was recorded with the permission of the participant and for the purpose of accurate transcription.

The participants were asked open-ended questions regarding policies, practices and processes surrounding repatriation and provenancing of Indigenous ancestral remains associated with their museums. Additionally, other topics, including past collecting practices of ancestral remains, the nature of their current museum's collections, the number of past repatriations of ancestral remains from their museums, the current scientific methods utilised in provenancing ancestral remains from their museums and the possible contributions of bioarchaeology to museum repatriation processes, were discussed. Interviews were undertaken with Anna Russo, the Aboriginal Heritage and Repatriation Manager for the South Australian Museum, Adelaide and Michael Pickering, the Senior Repatriation Advisor for the National Museum of Australia, Canberra.

Case Studies

Numerous case studies, mostly from Australia but also internationally, were identified and analysed for their relevance to understanding the history of provenancing methods globally, not only in museum contexts, but also in archaeological and cultural heritage management contexts. These case studies were examined and provided important information regarding the

past and current methods of provenancing ancestral remains in the field and in various institutions.

Limitations of Study

One of the challenges encountered during the thesis was the use of email for discussion purposes with museum repatriation practitioners, due to travel restrictions associated with mandatory state lockdowns across Australia during the Covid-19 pandemic.

Another challenge for the thesis was the number of individuals able to undertake informal discussions was limited to public service repatriation practitioners in Australia only. Individuals from international institutions would have enabled greater global knowledge about the employment of bioarchaeology in global museums and likewise, involving indigenous peoples would have also provided different perspectives regarding bioarchaeology in the processes of repatriation.

Conclusion

This chapter focusses on the methodologies utilised in the thesis. It focuses on the methods of data collection employed in the thesis and the limitations of these methodologies. The evidence gathered from these methods are all further explored in the Results and Discussion chapters.

Chapter 4: Results

Introduction

Repatriation has had a significant positive impact in the fields of archaeology, museology and Indigenous studies, in regards to improving relationships and it has also enabled a shift in the perspectives of contemporary archaeological, museological and indigenous communities, including an expanded mutual trust and respect between these stakeholders, as well as a deeper understanding and collaboration between these groups. Additionally, repatriation has facilitated dialogue and partnerships between these various stakeholders, as well as established new avenues of collaborative research, which are beginning to be tentatively considered and investigated by indigenous communities.

Although there have been significant numbers of repatriations globally, many indigenous ancestral remains are still components of existing museum collections, due to being unprovenanced or poorly provenanced to a vague country-wide association or region-wide geographic location, respectively. By incorporating bioarchaeological methods into repatriation processes, provenancing of ancestral remains can not only assist in returning ancestral remains to their original communities, but can also assist in re-establishing identities for ancestral remains, for the benefit of indigenous communities.

Provenancing Ancestral Remains

Provenance in an Australian context refers ‘to the original source of an item and its historical trail’ (Pickering 2020:62). For Indigenous Australian ancestral remains, it is the geographic place from where ancestral remains were originally located (Fforde et al. 2021:257) but can also mean ‘any and all information that can best establish the identity’ of ancestral remains, including documentation, archives and osteological profile reports. ‘The successful return and reburial of remains is… heavily reliant on good provenance information’ (Fforde et al. 2020:546) and therefore, for communities with poorly provenanced ancestral remains in their care, provenance information ‘enables [them] to identify their ancestors’ remains and to make informed decisions as to their future’ (Fforde et al. 2020:546).

In the USA, bioarchaeological methods are employed to confirm biological information about ancestral remains, as this may assist with the determination of cultural affiliation to a contemporary indigenous group and therefore, their provenance (Boutin et al. 2017; Fforde et al. 2020; 2021; Weisse 2021). Whereas in Australia, the key factor to the provenance of

ancestral remains is determined by geographic origin (Fforde et al. 2020; Pickering 2020; Weisse 2021), as Indigenous Australians believe in a deep connection between people and place (Fforde et al. 2021) and not specifically about biological affiliation to a particular community. Pickering (2020:63) corroborates this by emphasising that 'place is important, as whole populations and identities may fluctuate over time, the place of death or burial remains fixed.'

While some indigenous communities in the past have expressed wishes for their ancestral remains to not become objects of scientific study again, on the other hand, not all current indigenous communities are opposed to the use of both bioarchaeological and non-bioarchaeological based methods of provenancing their ancestors' remains (Fforde et al. 2020; Weisse 2021). Some indigenous stakeholders are willing to have their ancestral remains studied 'provided that senior men and women approve, supervise and see the outcomes of the research shared with their communities' (Turnbull 2017:364; 2020:937) and that the ancestral remains are in the community's care.

The use of bioarchaeological based provenancing methods have come to be more recognised by communities as a tool to assist in the repatriation of indigenous ancestral remains, but the degree to which they are used or not used by museums, varies between different museums and countries (Fforde et al. 2020). Some museums do not currently endorse the use of bioarchaeological methods on ancestral remains, such as the South Australian Museum (Anna Russo, pers. comm. 2021; SAM 2018), while others 'have used such methods as an addition to historical research and they can (and have) been considered as a potential source of information for unprovenanced or poorly provenanced remains' (Fforde et al. 2020:551–552). In Australian museum collections, 'most unprovenanced ancestral remains… came from somewhere within the state or territory where that museum is situated' (Pickering 2020:69).

Provenance research information also informs community decision-making about reburial practice, such as how to rebury with appropriate religious ceremonies (for example, based on sex, age at death or language group) and where to rebury, as well as, whether some skeletal elements of an individual are still missing and whether further research is required to assist in locating them (Fforde et al. 2020; 2021; Pardoe 2013; Anna Russo, pers. comm. 2021; Schaeppe and Rowley 2020; Turnbull 2010b; Weiss 2008; Wilson 2009).

It is important that indigenous communities are fully informed of the uses, strengths and limitations of various scientific methods that may be suggested by a community to a museum,

prior to repatriation of poorly provenanced remains. Improved access to information about the utility of these bioarchaeological methods will also facilitate the gathering of further information by indigenous communities to gain a better understanding about ancestral remains that are earmarked for repatriation (Fforde et al. 2020; Weisse 2021b). Indigenous communities should also have knowledge about whether the method/s they wish to use are destructive or non-destructive processes, as some of these methods may be culturally appropriate for some indigenous communities, while inappropriate for others (Weisse 2021). These methods should be employed to 'correlate and corroborate other sources of information' (Pickering 2020:69) gathered during repatriation processes. Appendix 4 and 5 outline the bioarchaeological methods, both destructive, non-destructive and some non-bioarchaeological based methods, that could be implemented for provenancing and re-establishing identity of ancestral remains during the repatriation process.

Case Studies: Bioarchaeology in Repatriation

From the 1990s, Australian archaeologists began to adopt more indigenous-led and community-controlled archaeological and cultural heritage research, including in the discovery, observation and subsequent treatment of their ancestral remains in the field (Pickering 2020). This has led to collaboration, participation and partnerships between both stakeholders (Boutin et al. 2017), which has ultimately led to improved indigenous trust in both the archaeological and museum sectors, when observing and analysing ancestral remains for their repatriation. Currently, indigenous communities are increasingly interested in the information that can be gleaned from their ancestors remains and communities have asked for bioarchaeological methods to be employed, to determine the provenance of their ancestral remains and the knowledge that can be gained from their analysis (Turnbull 2020). The case studies below outline some of the bioarchaeological and non-bioarchaeological (such as archival research and traditional indigenous knowledge) methods employed in the past and in recent studies of ancestral remains, from both archaeological and museum contexts, from Australia and internationally.

International Case Studies:

- 'The Edinburgh Collection' is the name given to the many Indigenous Australian ancestral remains that were located in Edinburgh University's Anatomy Department, which were repatriated in 1991, 2000 and 2008, with a total of 604 individual ancestral remains subsequently repatriated back to Australia (Cubillo 2010; Cressida Fforde,

pers. comm. 2021; Fforde 2004b; 2009; Fforde et al. 2020; Jenkins 2011; Wilson 2009). In 1999, post-cranial remains were located in a different location in the Department to their crania, which had been located and repatriated in the early 1990s (Fforde 2004b; 2009). The post-cranial remains became co-mingled over time and through the knowledge and research of an osteoarchaeologist and historians, an 'accurate description of each individual [in the museum's catalogues] helped identify to which catalogue number, and thus associated information, they belonged' (RRR 2020:11). Individuals were able to be identified and reunified through the identification of an individual's skeletal elements and the pathologies and fractures that had been specifically recorded in the Museum's catalogues (Cressida Fforde, pers. comm. 2021).

- Ancestral remains from the *iwi* Rangitāne o Wairau were repatriated from the Canterbury Museum in Christchurch, New Zealand and reburied at Wairau Bar, in Malborough in 2009, after they were examined by the University of Otago (Aranui 2020). The *iwi* approached the university to undertake the research, where aDNA and isotope analyses were conducted, which resulted in connecting living descendants to the ancestral remains and the identification of past health issues, including type 2 diabetes and gout, which would have had an impact on the past Maori community (Aranui 2020).
- The Ancient One (also known as Kennewick Man) was discovered in Washington state, USA in 1996 (Figure 4) (Weisse 2021; White et al. 2012). Controversially, nitrogen isotope analyses and aDNA tests were undertaken without indigenous consent to establish the tribal provenance of the remains, as provenance of ancestral remains in the USA is connected to affiliated tribes and not to geographic location, otherwise these remains would have been easily reburied in the region in which they were discovered (Huber 2020; Sayer 2010). The repatriation process took many years and many legal battles before they were reburied in 2017 (Huber 2020).

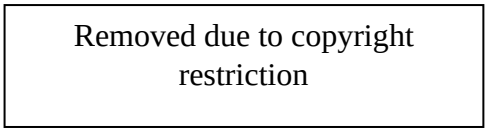

Figure 4. Map showing the discovery location of the Ancient One's remains (Chatters 2014:31).

Australian Case Studies:

- The Fitzroy Crossing Cemetery, located in Fitzroy Crossing, Western Australia, had numerous unmarked Indigenous graves from the twentieth century and was being severely impacted by erosion from the encroaching Fitzroy River (Bamford 2017; Neil Carter, pers. comm. 2021; NCIG 2019; RPS Group 2021; Storer 2018). An initiative, led by the local Kimberly Aboriginal Law and Cultural Centre (KALACC), was established to relocate the ancestral remains to a new cemetery on higher ground (Neil Carter, pers. comm. 2021; RPS Group 2021; Storer 2018). As a result, an archaeological rescue excavation was conducted in 2018, where the ancestral remains were

documented, examined, removed, sampled, stored and then reinterred in the new Fitzroy Crossing Cemetery in August 2018 (Bamford 2017; NCIG 2019; RPS Group 2021; Storer 2018).

Through the use of osteological analysis of the remains, historical archival documentation and through the use of traditional indigenous knowledge, consisting of oral histories, to assist in the identification of the 70 individuals exhumed by the excavation (RPS Group 2021). Of these 70 individuals, 15 were able to be identified and repatriated back to their community, with the remaining ancestral remains to be examined, through aDNA analysis of the samples taken during the recovery period, to assist in their identification for the community (Neil Carter, pers. comm. 2021; NCIG 2019; RPS Group 2021; Storer 2018; Turnbull 2020b).

- The Yidinji Elders, located in Cairns, Queensland (see Figure 3), requested before their repatriated ancestors were reburied in Country, that aDNA samples were taken from one individual's remains, and thus, confirmed that the ancestral remains were closely related to their modern-day ancestors (Phillips 2019).
- Traditional indigenous knowledge was employed at the Queensland Museum, in Brisbane, where an Indigenous Elder was able to communicate with the spirit of an individual through their ancestral remains (Weisse 2021). The provenance of the remains was initially poorly provenanced to New South Wales and through the Elder's 'communication, vision and knowledge of Country in New South Wales' (Weisse 2021:236) was able to direct the Museum's Repatriation Manager to the location in New South Wales where the remains needed to be repatriated (Weisse 2021).

Case Studies: Australian Museums and Bioarchaeology in Repatriation

Interviews were conducted with non-indigenous museum repatriation specialists from two different Australian museums in 2021. These interviews provided evidence of two further case studies where, in the past, bioarchaeological and non-bioarchaeological methods have been employed in the repatriation process of ancestral remains. These case studies provide museum contexts for provenancing ancestral remains. Interviews were undertaken with Anna Russo, the Aboriginal Heritage and Repatriation Manager for the South Australian Museum, Adelaide and Michael Pickering, the Senior Repatriation Advisor for the National Museum of Australia, Canberra.

South Australian Museum, Adelaide

Past Collecting Practices:

- From the 1860s onwards, the South Australian Museum began receiving donations from amateur naturalists (Turnbull 2017).
- From the late 1880s, the director of the South Australian Museum, Edward Charles Stirling, actively encouraged collecting of ancestral remains, eventually amassing over 800 skeletal remains (Turnbull 2012; 2017). Stirling utilised police, medical professionals, the public, pastoralists and frontier officials to prolifically collect ancestral remains in South Australia and the Northern Territory (Turnbull 2012; 2017) and traded or donated ancestral remains to international institutions, in the USA and the UK (Hemming et al. 2020; Turnbull 2017).
- Disturbed ancestral remains from swamp reclamation activities at Swanport, South Australia (Figure 5) were excavated by the Museum in April 1911, where the ancestral remains of over 135 individuals were recovered by the South Australian Museum (Jones 1988; Owen 2004; Pate and Owen 2013; Stirling 1911; Turnbull 2012; 2017).

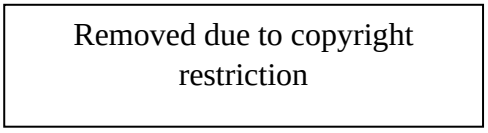

Figure 5. Map showing key archaeological site locations in South Australia (Pate 2017:128).

- From 1911 to the 1970s, all human remains disturbed on Crown Land were directed to be delivered to the Museum and all South Australian Police were to deliver human remains from the regions to the South Australian Museum (Pardoe 2013).
- From the 1950s, archaeological field expeditions were conducted by the South Australian Museum, where ancestral remains were collected by the museum (Anna Russo, pers. comm. 2021).
- In 2017, the University of Adelaide's Medical School and the Dental School donated partial ancestral remains associated with approximately 450 individuals from their collections to the South Australian Museum, which were absorbed into their Repatriation Program (University of Adelaide 2021).

Current Ancestral Remains Collection:

- As of April 2021, the South Australian Museum holds nearly 5000 ancestral remains, with 3700 of these from South Australia and of these, 400 individuals remains are still unprovenanced (SAM 2021).
- Section 1: 'More than three-quarters of the ancestral remains held [by the South Australian Museum]… are from Aboriginal people who were originally buried in South Australia prior to or possibly in the early days of European colonisation, within 100 kilometres of the Greater Adelaide area' (SAM 2018:1).
- The largest groupings of ancestral remains are from three communities: the River Murray Mallee group from the River Murray Riverland, the Ngarrindjeri from the south-east of Adelaide in the Coorong region and the Kaurna from the Greater Adelaide area (Anna Russo, pers. comm. 2021).

Current Repatriation Policy:

- Section 5.11: 'The Museum participates in the Australian Government's Domestic Indigenous Repatriation Program' (SAM 2018:7).

Current Provenancing Methods Policy:

- Section 5.6: 'The Board will not carry out or approve the conduct of *invasive research* on any ancestral remains, modified remains… in its care' (SAM 2018:4).
- Section 5.6: 'When requested to do so by the relevant Aboriginal representative body, the Board may carry out or approve *non-invasive research* on Aboriginal ancestral remains… provided this research serves a primary purpose towards repatriation and is conducted in a culturally competent and safe way' (SAM 2018:5).
- Section 5.6: 'The Museum's Aboriginal Advisory Committee is responsible for reviewing all proposals... to ancestral remains… for research purposes and will provide advice to the Board on such proposals, prior to the Board's consideration' (SAM 2018:5).
- Section 5.7: 'The Board will care for ancestral remains without provenance in a safe and secure area of the Keeping Place' (SAM 2018:5).

Past Use of Bioarchaeology in Repatriation:

- From 1995 to 1997, the National Skeletal Provenancing Project, based at the South Australian Museum, helped facilitate the provenancing of Indigenous Australian ancestral remains held in Australian state museum collections and the National Museum of Australia, through the use of archival research and osteological analysis (Cubillo 2010; Fforde 2004b).
- Use of physical anthropologists to examine the cranial remains of suspected Herbert Spencer, was ruled out as the named individual by osteological examination of the skull, which determined ancestry, sex and age at death differed from archival records of Herbert Spencer (Hanchant 2004).
- Use of comparison of soil method and through corroboration of archival resources, including Ramsey Smith letters and recorded information, to provenance cranial remains from the museum's collection (Steve Hemming, pers. comm. 2021).
- At the request of Traditional Owners (see Appendix 6 and 7), a range of scientific methods were employed with ancestral remains discovered during rescue excavations conducted by the South Australian Museum during the 1960s and 1970s at the archaeological site of Roonka, South Australia (see Figure 5). These included radiocarbon dating, uranium dating, osteological analyses, including palaeopathology, elemental analyses and stable carbon and nitrogen isotopic analysis (Pate 2000; 2006; Pretty 1977; Pretty and Kricun 1989; Pretty et al. 1998; Prokopec 1979; Prokopec and Pretty 1991). These methods were utilised to gain a better understanding of the past individuals, their diets and the impacts, such as stresses or diseases, that were felt by the community and the data collected would later assist in determining the geographic origin of poorly provenanced ancestral remains within the South Australian Museum Human Biology collection in 2002 (Pate 2000; 2006; Pate et al. 2002).
- Utilisation of stable carbon and nitrogen isotopic analysis of poorly provenanced South Australian ancestral remains curated by the South Australian Museum, was employed to improve information about their geographic origin. These ancestral remains had been largely collected by members of the public from Adelaide and surrounding regions over many years (see Figure 5). The chemical analyses of small bone samples assisted in providing regional locations for these ancestral remains (Pate et al. 2002).
- The Swanport ancestral remains collection that had been recovered by the South Australian Museum from a disturbed site in 1911 (see Figure 5) was

osteoarchaeologically examined in 2003 by Owen (2004) and was conducted with written consent from the Chair of the Ngarrindjeri Heritage Committee. Radiocarbon dating was undertaken on six individuals to establish a date range for when the ancestral remains were interred (Pate et al. 2003). In addition, osteological analysis was conducted on the Indigenous ancestral remains, to estimate the sex and age at death, as well as samples taken, for stable carbon and nitrogen isotopic testing (Pate and Owen 2013). The data derived from the isotopic analysis revealed the past lifeways and diets of the individuals examined and the differences in diet between the different ages and sexes of the Swanport community in the past (Pate and Owen 2013).

- In the past, there have been communities that have requested the use of non-invasive methods by the South Australian Museum to gather information, such as osteological analysis, paleopathology and photography, to clarify their decision-making (Anna Russo, pers. comm. 2021). A forensic anthropologist was used to identify the sex, age at death and age range of the ancestral remains for the community, to assist in their funerary decision-making processes (Anna Russo, pers. comm. 2021).

National Museum of Australia, Canberra

Past Collecting Practices:

- The Museum was established in 1980 and therefore, had no interest in acquiring ancestral remains as other older Australian museums had in the past (Pickering and Gordon 2011; Turnbull 2010).
- The closure of the Institute of Anatomy in Canberra transferred its collection to the National Museum of Australia in 1985 (Fforde 2004b; NMA 2019; Pickering 2010).
- The National Museum of Australia become a repository for international repatriation of Indigenous ancestral remains back to Australia under the A*boriginal and Torres Strait Islander Heritage Protection Act 1984* (Australian Government 1984; Cubillo 2010; Fforde 2004b; Pickering 2007; 2010; 2020b; Pickering and Gordon 2011) and established a dedicated Repatriation Unit in 2001, which was dissolved in 2011 (Cubillo 2010; Pickering 2010; 2020b; Pickering and Gordon 2011; Turnbull 2017). However, the Unit was reopened in 2019, as a Repatriation and Community Engagement Centre (de Villiers et al. 2021).

Current Ancestral Remains Collection:

- As of July 2021, a minimum number of 450 individuals are located at the National Museum of Australia repository, however, the museum has over 4000 individual records of skeletal remains, ranging from complete skeletons to single specific bone elements (Michael Pickering, pers. comm. 2021). Of these skeletal remains, approximately 3000, mostly individual bones, are currently unprovenanced (Michael Pickering, pers. comm. 2021).

Current Repatriation Policy:

- Section 4.10: 'The Museum will return ancestral human remains to appropriate communities on request subject to initial research' (NMA 2019:5) to identify the correct communities/custodians responsible for their care (NMA 2019:5).
- As of July 2021, approximately 1300 ancestral remains have been repatriated by the National Museum of Australia (Michael Pickering, pers. comm. 2021).

Current Provenancing Methods Policy:

- In March 1985, a moratorium was placed on scientific research on indigenous ancestral remains at the National Museum of Australia (Fforde 2004b).
- 'Where a community requests further research beyond that required for facilitating return, the [Repatriation] Unit attempts to put them in touch with suitable external professionals' (Pickering and Gordon 2011:3).
- 'Research on remains is tightly controlled by industry, institutional, and professional policies and protocols requiring community approval' (Pickering and Gordon 2011:3).
- Section 4.6: 'The Museum shall conduct appropriate and diligent research to attempt to identify the correct communities/custodians responsible for Aboriginal and Torres Strait Islander ancestral human remains in its care' (NMA 2019:4).
- Section 4.7: 'Scientific examinations… whether invasive or non-invasive, will only be undertaken with the written consent of the relevant community' (NMA 2019:4).
- The National Museum of Australia currently employs documentation and non-invasive biometrics, such as osteological and pathological analyses, to determine provenance of ancestral remains (Michael Pickering, pers. comm. 2021). If communities want invasive research to be undertaken, the ancestral remains must be in formal ownership

of the community and is then undertaken with their authority and control (Michael Pickering, pers. comm. 2021).

- Section 4.6: 'In the case of unprovenanced remains, any external scientific research will require the approval of the Museum's Indigenous Reference Group (IRG) and/or other Indigenous advisory group or community group recognised and/or recommended by the Museum's IRG' (NMA 2019:4).
- Section 4.6: 'All research conducted… will comply with recognised and appropriate ethical research guidelines' (NMA 2019:5).

Past Use of Bioarchaeology in Repatriation:

- The National Museum of Australia provides a 'Community Report' on the ancestral remains in their care, 'describing the remains and providing such information as the age, sex and health of the individual and what is known of the history of the collection' (Pickering 2010:168), as well as identification of injury or disease (Michael Pickering, pers. comm. 2021).
- 'In-house investigations are carried out when necessary in order to facilitate provenancing, reunification of separated bones in order to return individuality to the deceased and repatriation of remains' (Pickering 2010:169).
- In 2000, the 'Edinburgh Collection' of 130 individuals' post-cranial remains were repatriated from Edinburgh University and were reunified with their crania that had been repatriated earlier in 1990 to the National Museum of Australia (Fforde 2009; Michael Pickering, pers. comm. 2021; Wilson 2009). Initially, the use of historical archival documents assisted in reunifying the disassociated skeletal remains, however, through the assistance of osteological anthropologists, their knowledge was utilised in the reunification process (Michael Pickering, pers. comm. 2021). The osteological anthropologists helped to 'provide biological confirmation of association' (Michael Pickering, pers. comm. 2021) of the various skeletal elements, by ensuring that the associated bone elements were articulated correctly, that the skeletal elements matched with the archival records and observed the ancestral remains for any unusual, recorded or unrecorded features, such as disease or injury (Michael Pickering, pers. comm. 2021).

Conclusion

This chapter considers how bioarchaeological methods can provide information that assists in the accurate repatriation of ancestral remains by detailing the various bioarchaeological methods, both destructive and non-destructive, that can be employed during repatriation processes, to assist in provenancing poorly provenanced and unprovenanced ancestral remains. Likewise, this chapter also answers one of the aims of the thesis by providing information about the uses, strengths and limitations of bioarchaeological and non-bioarchaeological methods, that can guide indigenous communities and assist in their understanding about various provenancing methods available for them to consider (see Appendix 4 and 5).

Chapter 5: Discussion

Introduction

This chapter argues that the methods utilised in bioarchaeology are valuable resources for assisting in provenancing ancestral remains before and after their repatriation to indigenous communities. Globally, some museums have employed these methods to supplement and enhance historical research undertaken to provenance ancestral remains during repatriation processes, such as in the USA and UK. In the Australian context, the use of non-destructive methods has been endorsed in institutions and by the Australian Government (Australian Government Office of the Arts 2021). Conversely, the Australian Government has also stated that if ancestral remains are in the care of their Indigenous communities, then it is 'a matter for such custodians to approve and arrange for any form of invasive testing' (Australian Government Office of the Arts 2021).

It is argued in this chapter that it is important that indigenous communities are fully informed and educated about both bioarchaeological and non-bioarchaeological based methods available for their utilisation, if they want to potentially improve information about geographic origin and cultural affiliation of curated ancestral remains and gain further understanding of their ancestors or past lifeways. The key outcomes are community-centred and focused on restoring identities to ancestral remains through bioarchaeological methods. In addition, the current debates are discussed, including the use of keeping and resting places and how future bioarchaeological research for the benefit of indigenous communities can be adopted as best practice.

Bioarchaeological and Non-Bioarchaeological Methods to Repatriation

In this chapter, each of the bioarchaeological and non-bioarchaeological based methods that were detailed in Appendix 4 and 5 are discussed in greater detail. Case studies are provided from Australia, where these methods have been utilised successfully, for either providing more information for communities about their ancestors, culture and past lifeways, or for facilitating provenancing for the repatriation process.

Archival Research

Archival research should be the first step in provenancing research, as most curated ancestral remains will have some form of label, tag or paper trail which can assist in determining their cultural and geographic provenance. As detailed in Fforde et al. (2020) archival research has

enabled the provenancing of ancestral remains from country-wide, to regional or local levels and has also established the identity of known individuals and original burial locations (Pickering 2015; Roginski 2020).

Archival research is the most commonly utilised method, as it offers a non-destructive approach and has been successfully applied in numerous repatriation processes. For example, the repatriation of Indigenous Australian ancestral remains, known as the 'Edinburgh Collection,' to the National Museum of Australia in 1999, was achieved as a direct result of extensive archival research and osteoarchaeological methods (Cressida Fforde, pers. comm. 2021, Fforde 2009). The post-cranial remains of individuals had become co-mingled over time and were stored by skeletal element, rather than as individual skeletons (Cressida Fforde, pers. comm. 2021; Fforde 2009). Through the knowledge of an osteoarchaeologist and the archival research of historians, individuals were identified and reunified through the identification of skeletal elements and the pathologies and fractures that were prevalent and had been specifically recorded in the Department's catalogues (Cressida Fforde, pers. comm. 2021). Thus, through both archival research and osteological methods, the ancestral remains were repatriated back to Australia and to their original communities.

Archival research is also a useful method for revealing discrepancies related to ancestral remains collections. For example, archival research can identify a disassociation of cranial and post-cranial remains and determine if individual bone elements have been separated in the past due to various processes, including examination, exhibition or return to incorrect locations in collections (Fforde et al. 2020), which is important for the successful reunification of individuals and their repatriation to Country.

Moreover, this method is also important in facilitating the restoration of some form of identity for ancestral remains (Ormond-Parker et al. 2020). When detailed research involving ancestral remains has been performed in the past, archival research can assist in re-establishing the names of individuals, ages at death, means of deaths, language groups, indigenous community affiliation or geographic locations, on a case-by-case basis. Therefore, it is possible that individual identity for human remains can be reconstructed using archival research and it is a crucial method for contributing to the repatriation of ancestral remains.

Pickering (2020) emphasises that all archival information that is available for provenancing research should be completely exhausted before considering the utilisation of scientifically-based bioarchaeological methods in the repatriation process (Australian Government 2018).

This is currently evident at the South Australian Museum, where archival research methods are predominantly being utilised to facilitate the provenancing of ancestral remains in their collection (Anna Russo, pers. comm. 2021). Indigenous community researchers are presently generating archival research reports that should provide adequate archival information to facilitate the provenancing of a majority of the ancestral remains in the Museum's care, for their repatriation back to Country, without the need to utilise destructive provenancing methods (Anna Russo, pers. comm. 2021). Thus, when adequate information is available concerning the geographic origin and cultural affiliation of curated ancestral remains, archival research can be an essential method to determine vital information that is critical for provenancing ancestral remains in museum collections.

Some of the different types of records and resources available for archival research and the various ways in which to apply this method in provenancing ancestral remains are highlighted in Appendix 5. However, other resources, such as the *Return Reconcile Renew Toolkit Document 2: Brief Guide to Provenancing Ancestral Remains* (RRR 2020) and Fforde et al. (2020) are excellent resources for providing extensively detailed steps in how to accomplish in-depth archival provenance research and for providing the types of records and resources to assist specifically in archival provenancing research.

Metric and Non-Metric Osteological Analysis

In conjunction with archival research, both metric and non-metric osteological analysis are the most commonly applied bioarchaeological methods for provenancing ancestral remains. A combination of these non-destructive osteological methods can provide a significant amount of information about indigenous remains that can be applied during repatriation processes (Bass 2005; Buikstra and Ubelaker 1994; Clegg 2020; Larsen 2015; Mays 2010; Pardoe 2013; Pate et al. 2002; Pickering 2015; Roberts 2018; Roberts and Manchester 2010; Weisse 2021b; White et al. 2012).

Osteological analysis initially consists of observations to estimate the age, sex, ancestry, stature and number of skeletal elements present (Bass 2005; Buikstra and Ubelaker 1994; Larsen 2015; Mays 2010; Roberts 2018; White et al. 2012). In addition, paleopathological analysis involving the determination of the occurrence of trauma, fractures or the prevalence of various physical manifestations of diseases in ancestral remains can provide valuable information for repatriation processes (Buikstra 2019; Larsen 2015; Roberts 2018; Roberts and Manchester 2010; White et al. 2012). These bioarchaeological methods, along with archival research, can

provide pivotal biographical information, also called osteobiographies, which facilitate the reunification and individualisation of ancestral remains in museum collections. They can also assist in providing vital information that is crucial for accurate provenancing of ancestral remains (Australian Government Office for the Arts 2021; Roberts 2019). These methods are also importantly considered, by indigenous communities, to be culturally appropriate for analysing ancestral remains, as they are both non-destructive forms of examination that can provide pivotal information about ancestral remains for communities, without the need to damage ancestral remains during the process.

These methods have been effectively utilised in the past to assist in the repatriation of Indigenous Australian ancestral remains back to Australia, which is evident from their application in relation to the 'Edinburgh Collection.' The examination, individualisation, initial repatriation to Australia, reunification of cranial and post-cranial remains at the National Museum of Australia and the subsequent return to Country of the ancestral remains, was only achieved through the utilisation of both metric and non-metric osteological methods. Thus, this case study reinforces that the application of these methods in provenancing processes is not only essential, but is crucial for the successful provenancing of ancestral remains (Cressida Fforde, pers. comm. 2021; Michael Pickering, pers. comm. 2021; RRR 2020).

Likewise, at the National Museum of Australia, osteological analysis has been predominantly utilised to facilitate the provenancing of ancestral remains in their care (Michael Pickering, pers. comm. 2021). The National Museum of Australia generates 'Community Reports' about individual ancestral remains using osteological analysis, which includes a description of the remains, provides information about the age, sex and health of the individual, identifies the prevalence of pathologies, including fractures, and records what is known of the individual's history in the Museum's collection (Michael Pickering, pers. comm. 2021; Pickering 2010). As Pickering (2020:169) states 'in-house investigations are carried out when necessary in order to facilitate provenancing, reunification of separated bones in order to return individuality to the deceased and [for] repatriation of remains.' Therefore, a range of osteological methods have been successfully utilised to provenance ancestral remains in Australian museums and facilitated the repatriation of ancestral remains to their communities.

It is also evident that osteological analysis has been applied in the past in Australia, in archaeological and heritage management contexts at the request of Indigenous communities, including in the observation of the ancestral remains at Tchum Lake, Victoria, prior to their

reburial in 1998 (Westaway and Burns 2001). The Indigenous community at Tchum Lake requested a biological anthropologist to examine some disturbed ancestral remains, estimating the age at death, sex and identifying that the individual had a pathological condition, before they were returned to their community (Westaway and Burns 2001). Likewise, during the expansion of the Seaford rail route in Adelaide, South Australia in 2009 (see Figure 1), a full archaeological salvage operation was conducted with the assistance of the local Kaurna Indigenous community, where 18 burials in a traditional Indigenous cemetery were discovered and subsequently recovered, recorded and reburied in an adjacent location to the original site (Draper 2015). Additionally, the construction of a replacement bridge in Blanchetown, South Australia in 1998 (see Figure 5) provided an opportunity for radiocarbon and bioarchaeological research to be conducted on the ancestral remains disturbed by the development. Following the in-situ osteoarchaeological examination of the seven individual ancestral remains, bone samples were taken at the request of the local Indigenous community prior to their reburial, to facilitate future bioarchaeological research. Radiocarbon dating and stable isotopic analyses were conducted to determine the chronology of the burials and past dietary habitats of the individuals (Pate et al. 2011). Thus, the application of metric and non-metric osteological analyses is essential, for not only the successful repatriation of ancestral remains, but likewise, for fulfilling the requests of indigenous communities during rescue archaeological excavations and heritage management contexts. Likewise, destructive analyses, including radiocarbon and isotopic analyses of ancestral remains, can also be useful to provide additional information, such as chronology of buried ancestral remains, geographic origin and past behavioural information, such as diet and landscape use, for indigenous communities.

The literature (Fforde et al. 2020; Spake et al. 2020; Turnbull 2017; Weisse 2021) also reinforces that some current indigenous communities are interested in knowing more about their ancestors lives and their past cultural lifeways, from both curiosity and to fulfil cultural obligations to their ancestors, such as appropriate reburial ceremonies (Fforde et al. 2020; 2021; Pardoe 2013; Anna Russo, pers. comm. 2021; Schaeppe and Rowley 2020; Turnbull 2010b; Weiss 2008; Wilson 2009), during and after repatriation processes. Consequently, the application of a range of osteological methods are fulfilling these community requests, by enabling personal individual identities to be formed about ancestral remains through the repatriation process, for the benefit of indigenous communities (Pickering 2020). It is evident that these methods can be applied to reconstruct identity for ancestral remains, such as at the National Museum of Australia, where through their Community Reports, the Museum has been

able to re-connect information with the ancestral remains in their care and therefore, this information is helping to restore some form of individual identity for these ancestral remains during repatriation.

By reconstructing these identities, the museum is also re-shaping repatriation itself, by highlighting an underrated but highly important component of the process. For indigenous communities, the re-establishing of identity is an incredibly significant component of repatriation but has not been thoroughly explored in the literature to date (Fforde et al. 2021; Weisse 2021b). Through the combination of the bioarchaeological methods of metric and non-metric osteological analysis, along with archival research, some form of identity can be re-established for ancestral remains during repatriation processes, for example, the identification of "Yagan's Head" in Liverpool, England in 1997 (Clegg 2020; Fforde 2002; Turnbull 2017). After Yagan's death, his skull had been removed from his body and loaned by a frontier police officer to a phrenologist in England in 1834 (Clegg 2020; Fforde 2002; Turnbull 2017). Subsequently, Yagan's cranium was donated to the Liverpool Royal Institution, England in 1835 (Clegg 2020; Turnbull 2017). In turn, the collection, containing the skull, was given to the Liverpool City Museum in 1894 and ultimately, buried by the Liverpool Museum in 1964 (Clegg 2020; Turnbull 2017). Yagan's cranium was identified through the use of a forensic anthropologist, who identified specific trauma on the skull, a 'gunshot wound with radial fractures… on the left-hand side of the back of the cranium' (Fforde 2002:238) and decapitation marks, to the vertebrae and base of the skull, from where the cranium had been removed from his body in Swan River, Perth, Western Australia (Clegg 2020; Fforde 2002; Turnbull 2017). The osteological evidence correlated with the written record about the injuries to the skull, assisting in re-identifying the cranium as Yagan's (Fforde 2002). Thus, through a combination of archival and osteological methods, the ancestral remains were able to be disinterred, re-identified and returned to Country in 1997 (Fforde 2002).

It should be highlighted that the use of particular osteological methods, including the use of craniometrics (comparison of cranial measurements of ancestral remains through databases) and absolute adult age at death ranges have their limitations, as detailed in Appendix 4. The use of craniometrics and the databases it utilises for comparative analysis has been demonstrated to be flawed in some cases, as bioarchaeologists have identified that there are not enough indigenous peoples' crania represented to provide a definitive ancestral result using this method (Pickering 2020; RRR 2020). Furthermore, the crania only reflect a biological identity and not a social or cultural identity, which are important components of indigenous

identities (Australian Government Office of the Arts 2021; Bethard and DiGangi 2020; Fforde et al. 2020; 2021; Morris 2007; Pickering 2020; RRR 2020). The Australian Government concurs that the craniometric approach is flawed by stating that 'the [Australian] Government will not repatriate ancestors to Australia, where provenance claims are based solely on craniometrics analysis' (Australian Government Office for the Arts 2021).

Craniometric analysis of ancestral remains has impacted the repatriation of ancestral remains to indigenous communities in the past. For example, the repatriation of indigenous Hawaiian ancestral remains from the Natural History Museum, London, that were obstructed by the contradiction and prioritisation of the results of craniometric analysis over archival identification that provenanced the ancestral remains to a particular Hawaiian indigenous group, which resulted in some of the ancestral remains remaining with the museum, rather than being repatriated to their community (Cressida Fforde, pers. comm. 2021). Moreover, the use of definitive age ranges has also been challenged by the Spitalfields Project (Molleson et al. 1993:214), as this study has demonstrated that any adult age at death range more definitive than the categories of 'young adult, middle aged or old' is unreliable for estimating the age range of adult human remains.

aDNA Analysis

If archival and osteological methods are unable to assist in definitively provenancing ancestral remains, indigenous communities may want to utilise other bioarchaeological methods, such as aDNA and isotopic analysis, to facilitate repatriation processes and to gain further knowledge about their past ancestors (Fforde et al. 2020; Pickering 2020).

The uses and strengths of aDNA analysis are highlighted in Appendix 4, with its ability to determine sex, pathologies, migration and relationships between living people and ancestral remains or between ancestral remains themselves, such as in a cemetery setting. Conversely, aDNA analysis is a destructive process, and therefore, indigenous communities must decide whether or not this is a culturally appropriate method for their community to utilise, where they must consider the decision in which to cause damage to ancestral remains, in order to gain more knowledge about those ancestral remains and thus, assist in identifying their ancestors for repatriation purposes (Australian Government 2018; Clegg 2020).

However, the use of aDNA analysis is limited in its application in an Australian provenancing context, as the key factor in provenancing ancestral remains is determined by geographic origin (Fforde et al. 2020; Pickering 2015; 2020; Weisse 2021). Other bioarchaeological methods,

such as isotopic analyses (Adams et al. 2022; Owen and Casey 2017; Pate et al 2002; Rippon et al. 2020), would be more appropriate and beneficial for Australian Indigenous communities in assisting in provenancing their ancestral remains. aDNA analysis is also limited in that it does not always produce conclusive results, it has potential for misinterpretation, error or inconclusive results, referred to as 'ambiguous results' (Australian Government 2018:2), and the method must also have samples from living members of indigenous communities, in order to have a comparative sample to test (Australian Government 2018; Australian Government Office for the Arts 2021; Pickering 2015).

On the other hand, advancing knowledge and improvement of methods are enhancing the application of aDNA analysis in provenancing and reducing the likelihood of ambiguous results. Current knowledge about whether aDNA will survive in human remains, where in the skeleton or skeletal elements is best for preserving aDNA and extraction of samples in the field, helps in directing sampling and for advancing the likelihood of obtaining results, respectively (Pate et al. 2020; Roberts 2018; 2019). Likewise, the knowledge that X-rays might cause damage to aDNA (Roberts 2019) and the use of new technological developments, such as Next Generation Sequencing (NGS), are enabling aDNA to be better preserved in ancestral remains, for identification of contaminated samples and for smaller sample sizes to be taken from ancestral remains and therefore, reducing the damage to indigenous ancestral remains (Australian Government 2018; Fforde et al. 2020; Roberts 2018; Squires et al. 2019; Weiss and Springer 2020).

Currently, scientifically-based bioarchaeological methods are becoming more widely utilised in Australian repatriation contexts, as evident by the usage of aDNA analysis in determining the identity of recovered ancestral remains from the Fitzroy Crossing Cemetery, Western Australia (Neil Carter, pers. comm. 2021; NCIG 2019; RPS Group 2021; Storer 2018; Turnbull 2020b). During the archaeological rescue excavations in 2018, permission was given by the local Indigenous communities for aDNA samples to be extracted in the field for later laboratory analysis. As there was limited archival information to identify the individuals buried at the Fitzroy Crossing Cemetery, the samples were taken to assist in not only identifying the ancestral remains reinterred at the new cemetery, but to likewise, assist in repatriating these ancestral remains once identified, back to their original communities for reburial in Country (NCIG 2019; RPS Group 2021; Storer 2018).

Moreover, aDNA analysis has also been utilised in the recent studies of the Yidinji ancestral remains, which were repatriated back to their community in Cairns, Queensland (see Figure 3) (Phillips 2019) and during the Edenhope reburial, located in north-west Victoria, where the Indigenous community requested aDNA testing to confirm the ancestry of the individual discovered archaeologically (Westaway and Burns 2001). The ancestral remains were identified as Aboriginal Australian and their sex determined, before they were reburied in Country (Westaway and Burns 2001). Additionally, between 2015 and 2018, archaeological rescue and reburial excavations of two traditional burials were undertaken in the Flinders Group islands, located off the coast of Cape York, Queensland (see Figure 3), by the local Indigenous community and bioarchaeologists (Adams et al. 2020). Osteoarchaeological analysis was conducted in the field, determining the age, sex, ancestry and pathologies of the ancestral remains and samples were also collected, to assist in aDNA testing, radiocarbon dating and stable isotope analysis of the ancestral remains (Adams et al. 2020). Therefore, these case studies reinforce that the application of this method in provenancing is successful, in providing additional information about ancestral remains that may not be uncovered through non-destructive methods alone.

Isotopic Analysis

The Australian Government defines isotopic analysis as 'analysing radioactive [sic] particles, minerals and chemicals in soils that are either attached to ancestors or are deposited in bones and teeth. Samples are taken and analysed for particular isotopic characteristics, and then compared with the isotopic characteristics of certain places or foods common to specific areas' (Australian Government Office for the Arts 2021), as seen in Figure 6. Traditional radioactive isotopic methods, including radiocarbon, are supplemented by non-radioactive methods employing stable isotopes, such as carbon, nitrogen, oxygen and strontium. Additionally, isotopic analysis is another form of the scientifically-based destructive bioarchaeological methods, which are highlighted by Appendix 4 and it has recently been applied to a greater extent in provenancing research and for repatriation of ancestral remains.

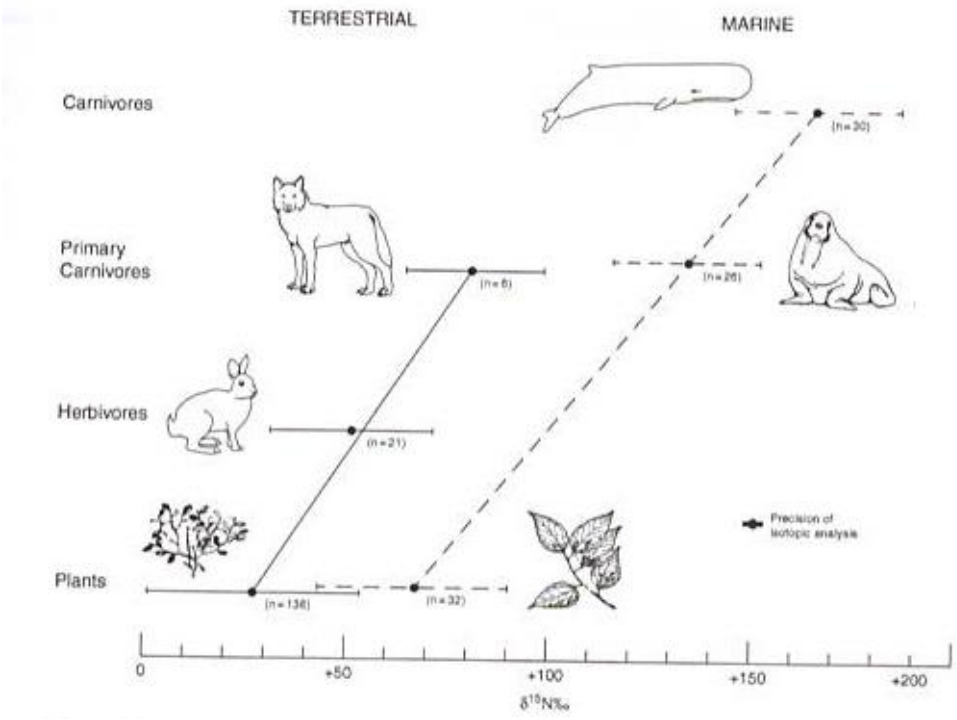

Figure 6. Image representing the trophic levels of territorial and marine plants and animals, identified through isotopic analysis according to the nitrogen values in human bone samples, this is an indicator of the type of diet in past human beings and can assist in identifying provenance (Bioarchaeology: Interpreting Behavior from the Human Skeleton, Larsen 2015 © copyright 2023, reproduced with permission of The Licensor through PLSclear:321).

In Australia, the key factor to provenance ancestral remains is determined by geographic origin (Fforde et al. 2020; Pickering 2020; Weisse 2021), as Indigenous Australians believe in a deep connection between their ancestors and Country. Thus, isotopic methods would be of best use for provenancing ancestral remains in an Australian context, because the results gathered from this method could be applied to determine connections between ancestral remains and their original geographic provenance.

Pate et al. (2002) is a seminal resource, as the work provides direct evidence for the Australian application of bioarchaeology to the repatriation process. Through the use of isotopic data obtained from various south-eastern South Australian samples (Owen 2004; Pate 1995; 1998; 1998b; 2000; Pate and Schoeninger 1993; Pate et al. 1998b), the authors were able to utilise stable carbon and nitrogen isotopic values from archaeological ancestral remains of known provenance and apply these to poorly provenanced remains in the South Australian Museum's Human Biology collection. The poorly provenanced ancestral remains in the collection

identified as being from South Australia or the Adelaide region, were sampled by the authors and stable isotopic analysis assisted in providing regional geographic locations for these ancestral remains. Therefore, from this study, the authors were successfully able to utilise the stable isotopic method to determine geographical zones of origin for poorly provenanced ancestral remains from south-eastern South Australia, to produce a carbon and nitrogen isotopic map for the region to assist in future repatriations of ancestral remains and definitively demonstrated that this bioarchaeological method is able to provenance ancestral remains held in museum collections.

Similar to aDNA analysis, isotopic analysis has become more widely utilised recently in Australia for provenancing and repatriation of ancestral remains. Current studies, for example by Adams et al. (2019) and Collard et al. (2019) have utilised a strontium isotopic analysis method to produce strontium isotopic maps for the north-east of Australia (Figure 7), that could be applied to provenance research and facilitate the repatriation of ancestral remains from Australian museums. Likewise, the Flinders University isotopic research group have established both strontium and oxygen isotopic maps for the Adelaide and Sydney regions (Adams et al. 2022; Owen and Casey 2017; Rippon et al. 2020).

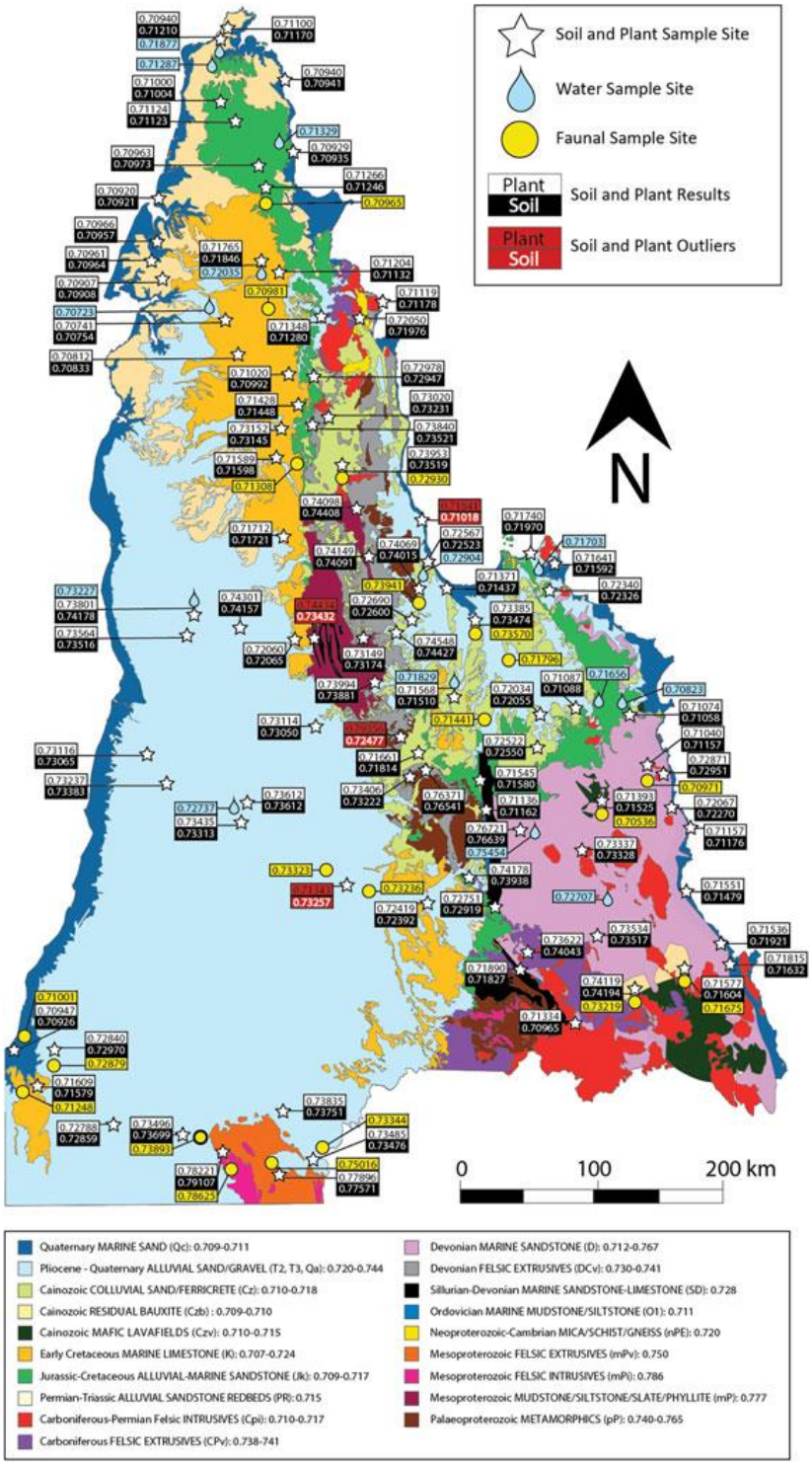

Figure 7. Strontium isotope map of Queensland (A strontium isoscape of north-east Australia for human provenance and repatriation, Adam et al. 2019, reproduced with permission from John Wiley and Sons:231).

Additionally, in association with the 1998 Blanchetown Bridge cultural heritage management project in South Australia, samples were extracted from the ancestral remains disturbed by bridge construction, for radiocarbon dating and stable carbon and nitrogen isotopic analysis, which provided dating context for the ancestral remains and resulted in data about the past diets

of these individuals, respectively (Pate et al. 2011). By using these methods, the authors were able to provide important information for the Indigenous community about their past cultural lifeways but likewise, the study provides direct evidence for the successful application of these methods in archaeological and heritage management contexts. Thus, these case studies reinforce that the application of these isotopic methods in provenancing are not only essential, but are crucial for the successful repatriation of ancestral remains.

Radiocarbon Dating Analysis

This isotopic method is useful for determining the age of indigenous ancestral remains, however, it is limited in its ability to contribute to provenancing ancestral remains. On the other hand, radiocarbon dating has the ability to assist in re-establishing identities for ancestral remains for their communities during and after repatriation and also the decision-making of Indigenous stakeholders during repatriation and reburial processes.

The radiocarbon dating method has been utilised in Australia in the past as evidenced by the research of Pate and Owen (2013) with the Ngarrindjeri Indigenous community, involving ancestral remains from the Swanport archaeological site, South Australia (see Figure 5) (Owen 2004; Pate and Owen 2013; Pate et al. 2003). This study derived from Owen's (2004) research with the Ngarrindjeri, provides evidence for the application of Accelerator Mass Spectrometry (AMS) radiocarbon dating in museum contexts, with samples taken from the ancestral remains of six individuals in the Swanport collection held at the South Australian Museum. Likewise, long-term collaborative research with the Indigenous Gerard Reserve Council has resulted in radiocarbon analysis of the Roonka ancestral remains curated at the South Australian Museum (Littleton et al. 2017; Pate et al. 1998; Prescott et al. 1983; Pretty 1977, 1988). Thus, the radiocarbon dating method has been applied in the past to ancestral remains held in museum collections and therefore, could be employed as a method for obtaining information that could enhance provenance repatriation research.

Additionally, Owen and Pate's (2014) cultural heritage management study involved the observation and reburial of ancestral remains in Salisbury, Adelaide, South Australia (see Figure 1), working collaboratively with the local Kaurna Indigenous community. The Kaurna invited bioarchaeologists to undertake in-situ osteological observations and pathological analysis of the ancestral remains, as well as extract samples from a taphonomically fractured femur, for stable isotope and radiocarbon dating analysis, which resulted in a definitive age range and sexing of the ancestral remains for the Kaurna community. Use of these methods in

an archaeological context, not only reduced the amount of handling of the ancestral remains but also the need for them to be extracted from their burial place and examined off site and also facilitated a quicker reburial of the remains for the Kaurna community. Likewise, this study fulfilled the goals set by the community in conducting the study of the remains, including gaining a better understanding into their past ancestors and also allowed for the Kaurna community as a whole, to gain further insight into their culture and past lifeways. Therefore, the work of Owen and Pate (2014) provides further evidence for the application of bioarcheological methods involving ancestral remains archaeologically uncovered in the field before their reinternment.

Although radiocarbon dating is a destructive bioarchaeological method, its best use would be for assisting in determining the chronology of ancestral remains for indigenous community knowledge and to provide more information about the identity of ancestral remains, such as age range and sex, which is very important for indigenous community decision-making during repatriation processes.

Advancing Provenancing Methods

Histological, Protein, Dental Calculus and Soil Analysis

Histological analysis has been an essential bioarchaeological method for decades, however, it has evolved over recent years from a destructive to a non-destructive method of analysis. In the past, this method utilised samples of cross-sections of long bones, which caused considerable damage to ancestral remains, but through modern advances in computerised tomography (CT) scanning, histological analysis of ancestral remains can now be conducted non-destructively (Roberts 2018; Weiss and Springer 2020). Other non-destructive methods in bioarchaeology, including analysis of protein and dental calculus, are only now being applied to repatriation contexts (Appendix 4 and 5) because they can contribute considerable information to this process.

Similarly, analysis of soils with distinctive geographic properties that have adhered to skeletal remains have a significant potential in contributing to the successful provenancing of ancestral remains in an Australian context. For example, the soil analysis study by Pierre et al. (2017) provides evidence for the successful use of this method for identifying the original provenance of mass graves victims, who had been interred, exhumed and then reinterred at different locations. The authors were able to identify, through soil comparison, the geographic location of the original mass grave site where the victims had first been interred. The soil analysis

method could be utilised successfully within an Australian repatriation context, as soil that still adheres to ancestral remains (Australian Government Office for the Arts 2021; Warren et al. 2013) or has been bagged when dislodged from ancestral remains, a curatorial technique conducted at the National Museum of Australia (Patrya Kay, pers. comm. 2021), would assist in determining a geographical provenance for those ancestral remains or rule out certain places as the original provenance location of indigenous remains and therefore, aid in provenancing ancestral remains in repatriation process. This method could only be employed successfully if enough soil is available to be sampled and if ancestral remains were interred in their original Country, which is not always the case.

Soil analysis has been applied by the South Australian Museum in the past, to assist in the repatriation of ancestral remains in the museum's care (Steve Hemming, pers. comm. 2021) and could in the future be employed again by the South Australian Museum and other museums, to successfully provenance the unprovenanced ancestral remains in their collections (Daley 2020; Anna Russo, pers. comm. 2021). For example, this method could also be applied at the National Museum of Australia to improve information about the geographic provenance of the poorly provenanced ancestral remains in their care, by analysing the bagged soil that has been dislodged from skeletal remains in the past (Patrya Kay, pers. comm. 2021). Soil analysis could be a highly successful method in repatriation processes in Australia, as it is non-destructive and would be considered culturally appropriate by indigenous communities. It could be applied successfully in an Australian context, to locate the original geographic provenance of ancestral remains or rule out conflicting locations identified through other methods of analyses.

UV Light and Infrared Photography

The use of UV lighting and infrared photography has only recently emerged as a method of analysis in provenancing ancestral remains. This non-destructive method of analysis has been endorsed by Fforde et al. (2020) and the Australian Government Office for the Arts (2021) as a potential means for revealing information that has been erased, lost or has faded over time (Clegg 2020; Pickering 2020; RRR 2020). Used in conjunction with archival research methods (Australian Government Office for the Arts 2021), the application of UV light or infrared photography could be beneficial for revealing significant and important information regarding the provenance of ancestral remains in museum collections.

Yet, not all Indigenous communities may believe that the application of UV light and infrared photography as a method of analyses for ancestral remains is culturally appropriate. Native Hawaiian organisations deem it inappropriate for ancestral remains to be exposed to sunlight and thus, this method would not be permitted for the analysis of these ancestral remains (Cressida Fforde, Michael Pickering, Gareth Knapman, pers. comm. 2021). However, with this non-destructive method considered by most indigenous communities to be a culturally appropriate form of analyses of ancestral remains, it can only be strongly suggested as a vital new method to employ in provenance research. Fforde et al (2020) state in their work that all ancestral remains should be viewed under UV light and different light filters, as this not only enhances the possibilities of finding crucial information that might have been lost over time, but it is beneficial for ensuring that all information has been obtained for indigenous communities, to assist in their decision-making during and after repatriation.

Traditional Indigenous Knowledge

Traditional indigenous knowledge has been utilised in the past in Australia through oral histories and storytelling, detailing the circumstances of past collecting of ancestral remains and providing contemporary evidence for Indigenous objections to collecting of their ancestors remains, as evident in the Literature Review. Furthermore, in the USA, the *Native American Graves Protection and Repatriation Act 1990* (NAGPRA) outlines that evidence of cultural affiliation to ancestral remains can be satisfied by folkloric and oral traditional information, provided by Native American tribes and Native Hawaiian organisations (see Appendix 1) (NAGPRA 1990). Thus, the use of traditional indigenous knowledge has been applied in the USA to provenance ancestral remains in museum collections and therefore, could be applied in an Australian context to Indigenous Australian ancestral remains.

This method is only beginning to be utilised in Australia during repatriation processes. For example, Weisse (2021; 2021b) studied the application of traditional indigenous knowledge at the Queensland Museum, in the form of spiritual communication between ancestors within ancestral remains and community Elders. In this case, communication reinforced the provenance of ancestral remains and they were subsequently repatriated back to their original community in New South Wales. As Weisse (2021b:169) states ‘in the Queensland Museum, spiritual and cultural knowledge is recognised as sufficient evidence to provenance Aboriginal human remains’ and therefore, this study is direct evidence for the application of traditional indigenous knowledge as a method in museum provenance repatriation processes.

However, not all museums endorse this method of provenancing for the ancestral remains in their care. Traditional indigenous knowledge is considered a controversial method, as the methodology and results of this approach are intangible and untestable under modern scientific inquiry (Harris 2005; Janke and Sentina 2018; Michael Pickering, pers. comm. 2021; Weisse 2021b). Traditional indigenous knowledge is considered 'flawed evidence' (Weiss and Springer 2020:199) by most in the museum sector because it is treated as religious in nature, subjective and biased evidence (Weiss and Springer 2020). Consequently, the results of traditional indigenous knowledge are not yet considered to be equal to scientific inquiry (Harris 2005; Weiss and Springer 2020) and are therefore, utilised by the museum sector as secondary information, used in conjunction to confirm or disprove results reached by other methods of analyses (Harris 2005; Michael Pickering, pers. comm. 2021; Weisse 2021b).

The museum sector also has legal responsibilities in repatriation processes to indigenous communities and to the institutions themselves, to provide sufficient and accepted evidence to reassure both stakeholders that they have accurately identified the provenance of repatriated ancestral remains. There could be serious cultural and spiritual concerns or consequences if ancestral remains are given back to wrong communities (Clegg 2020; Weisse 2021b). Nevertheless, this method is tentatively advancing in the context of repatriation but may in the future, as Weisse (2021b) hopes, be utilised more frequently, as indigenous involvement in repatriation processes subsequently increases.

Weisse (2021; 2021b) also reinforces throughout her thesis the positive impacts that the method of traditional indigenous knowledge could have for the repatriation of museum-held ancestral remains. She posits that the methods of not only spiritual communication but also oral histories could reveal historical information about the identity or geographic origin of ancestral remains and enhance their identification, by providing relative dates for removal of remains from communities in the past and by providing information about unique physical characteristics of past individuals, that may lead to their identification in museums. As a non-destructive and an indigenous-led method of provenancing ancestral remains, this method has merit as an emerging approach for re-establishing identities for ancestral remains during the processes of repatriation.

Currently, methods associated with traditional indigenous knowledge are being applied by the museum sector to indigenous displays and exhibitions, to provide indigenous perspectives on their cultures, histories, lives and experiences, as well as the objects in museum collections

(Hemming et al. 2020; Pickering 2007; 2020b; Turnbull 2017; 2020). Likewise, oral histories have been utilised at the Fitzroy Crossing Cemetery archaeological excavation, to assist in provenancing the associated ancestral remains and repatriating them back to their original communities (Neil Carter, pers. comm. 2021; NCIG 2019; RPS Group 2021; Storer 2018; Turnbull 2020b).

The incorporation of traditional indigenous knowledge approaches into museum repatriation practice would shift the focus of repatriation towards a more indigenous archaeologies methodology, with the incorporation of an indigenous-led method for provenancing ancestral remains (AIATSIS 2020; Colwell-Chanthaphonh et al. 2010; Harris 2005; Jackson and Smith 2005; Smith and Wobst 2005; 2005b; Spake et al. 2020; Trigger 2014; Wilson 2007; Zimmerman 2005). By applying an indigenous archaeologies methodology to provenance ancestral remains, this would not only acknowledge the importance of indigenous beliefs and cultural values into the processes of repatriation (Michael Pickering, pers. comm. 2021) but would also be providing an alternative provenance method, one where both stakeholders could gain ethical and satisfactory evidentiary results, that would be approved by both stakeholders, in the practice of repatriation. As exemplified by the Queensland Museum, the museum sector and indigenous communities could work together to achieve successful repatriations from the application of this method, in conjunction with the results from other non-destructive methods, such as archival research, osteological and soil analysis, to provide sufficient evidence to repatriate ancestral remains.

The incorporation of traditional indigenous knowledge may not be seen as a valid source of knowledge by the majority of the museum sector for provenancing ancestral remains, but if all indigenous communities concerned are satisfied that this method has valid results, then why should it be a barrier to repatriation. Even though this method may sometimes have a supernatural approach (Harris 2005; Weisse 2021; 2021b), other forms, including oral histories and storytelling, have been utilised in other contexts, such as archaeology and heritage management (Fforde and Oscar 2020; NCIG 2019; RPS Group 2021; Smith and Wobst 2005b; Storer 2018; Turnbull 2020b; Wilson 2007) and there is merit in the utilisation of this method as an indigenous-led re-identification approach to repatriation. Traditional indigenous knowledge may not be a method to solve the future difficulties in provenancing ancestral remains but similar or new methods of indigenous-led provenancing must now be considered by the museum sector to be able to successfully repatriate the ancestral remains in their care.

Advancing Technologies

New methods and advancing technology surrounding the provenancing of ancestral remains have developed and been enhanced throughout the last few decades (Australian Government 2018; Ubelaker 2011). This has enabled advances, including smaller sampling sizes and different sampling locations, such as teeth instead of bone (Roberts 2019; Squires et al. 2019; Weiss and Springer 2020; Wisely et al. 2004), as well as the examination of ancestral remains through new non-destructive methods, such as computerised tomography (CT), magnetic resonance imaging (MRI) and three-dimensional (3D) scanning (Giles and Williams 2016; Henson et al. 2019; Ousley and McKeown 2001; Pardoe 2013; Roberts 2019; Smith and Hirst 2019; Weiss and Springer 2020), to become incorporated into repatriation processes.

Non-destructive methods, such as CT, MRI and 3D scanning, are beneficial technologies for the process of provenancing ancestral remains. These methods have reduced the handling of ancestral remains when examined (BABAO 2019; Henson et al. 2019), can record bone density and allow for easier digital access to internal bone structures, that would have been difficult to access and observe without using destructive methods in the past, such as those utilised for histological analysis (BABAO 2019; Henson et al. 2019; Roberts 2018). CT and MRI scanning have allowed for better understanding of shape variations in human remains, including the determination of sex (Bewes et al. 2019; Roberts 2019) and for digital imaging of cross-sections of skeletal remains (Hill et al. 2020; Weiss and Springer 2020). 3D scanning has also enabled digital analysis and comparison of morphological traits in human remains (BABAO 2019; Henson et al. 2019; Weiss and Springer 2020) and digital reconstruction of fragmentary human remains (Smith and Hirst 2019), which could be beneficial within a museum context, to contribute to osteological analyses of ancestral remains. CT scanning has been utilised in past Australian heritage management cases, for example, the Indigenous community at Tchum Lake requested a CT scan of the individual uncovered, to better understand the pathological condition identified on the ancestral remains, before they were returned to their community (Westaway and Burns 2001). Thus, CT, MRI and 3D scanning could be constructively employed in a museum context, to gather more information about ancestral remains that may be useful during repatriation processes.

However, there are limitations to CT, MRI and 3D scanning methods for repatriation purposes, as these methods are not yet deemed culturally appropriate by many indigenous communities. Indigenous communities need to understand their cultural and intellectual property rights

regarding the data produced from these methods, before they are considered or consented to in relation to repatriation processes (AIATSIS 2012; 2020; Janke and Sentina 2018; NHMRC 2018; Smith and Hirst 2019). If indigenous communities want to restrict the use of this data to the repatriation of ancestral remains, rather than an extension to other scientific analyses for purposes, such as human evolution or migration research, access to the results and its uses needs to be controlled by indigenous communities (Janke and Sentina 2018; Pickering 2020).

As Pickering (2020:69) importantly highlights, 'it should be recognised that access to historical records, as well as to non-destructive techniques for provenancing, will likely continue to improve over the years, with information and identification techniques becoming easier to access and apply, more accurate[ly],' which will contribute in the future to provenancing currently unprovenanced ancestral remains. Additionally, methods adopted from other disciplines, may also in the future be incorporated successfully into provenancing methods for repatriation purposes, such as a method suggested by Clegg (2020) from the field of entomology. The current method of soaking insect specimens in a particular solution, to extract the DNA that leeches from them, causes no damage to the specimen and is therefore, suggested by Clegg (2020) as a possible future method that could be used to enhance provenancing and re-identification methods in repatriation of ancestral remains.

Conclusions

As the practice of repatriation in museums becomes increasingly more difficult, with single elements of individuals, fragmented or unprovenanced remains as the last remaining ancestral remains to be repatriated back to indigenous communities, a shift in focus is needed for provenancing unprovenanced or poorly provenanced ancestral remains. The change of focus needs to incorporate new and emerging methods, both destructive and non-destructive, to become considered and incorporated by all stakeholders into the processes of repatriation. To enable the best results for ancestral remains to be repatriated from museums and returned back to their original communities, the museum sector needs to integrate not only existing bioarchaeological methods into provenancing, including a range of osteological and isotopic analyses, but needs to embrace new approaches with incredible potential in this area, including soil analyses or bone soaking. Likewise, provenancing methods need to be accepted by all stakeholders, which means that a change is needed to the means by which indigenous people can be included in the process. Traditional indigenous knowledge may not be a future method accepted wholeheartedly by the museum sector into repatriation processes, but it is a method

that has merit for its indigenous-led, non-destructive approach to provenancing ancestral remains, that is considered culturally appropriate by indigenous communities. Similar or new methods of indigenous-led provenancing need to be considered in processes of provenancing ancestral remains for repatriation to continue to be successful into the future.

Re-Establishing Identity Through Repatriation

During past collecting and museum curatorial practices, in some cases ancestral remains were stripped of their original identities as past human beings and transformed into objects, specimens or artifacts held in institutional collections (Cassman and Odegaard 2007; Harris 2005; Jenkins 2016; Morphy 2010; Pickering 2010b; Roberts 2019; Tapsell 2016; 2020; Tarle et al. 2020). Fforde et al (2021:256) defines this process as an 'object-identity transformation.' However, through provenance research for the practice of repatriation, identities of ancestral remains are becoming re-established or restored, reversing this object-identity transformation throughout global institutions.

Primarily, the identities of ancestral remains are being restored through repatriation research. Fforde et al. (2021) states that the practice of repatriation is central to re-establishing the identities of ancestral remains but to also maintain their identity throughout and beyond the repatriation process. Through archival research and bioarchaeological methods of analysis, these approaches can assist in establishing biological identities for ancestral remains, such as through aDNA and osteological analysis, by identifying their age at death, sex or ethnicity (Weisse 2021b). Bioarchaeological methods can also be applied to assist in re-establishing social or cultural identities of ancestral remains, through isotopic analysis, which can aid in identifying the original geographic location or burials of ancestral remains. Weisse (2021:95) postulates that 'provenancing is a form of returning identity' to ancestral remains, which she terms 'identity re-allocation' (Weisse 2021b:95).

Likewise, there has been a major change in the views of museums about ancestral remains. Through gaining a better knowledge and understanding into the perspectives of indigenous peoples about the importance of ancestral remains to communities and their meaning and significance as their ancestors, the display of objects and their objectification has led to the removal from display of ancestral remains from public view, especially in Australia and New Zealand and ongoing cessation of the objectification of ancestral remains in institutions globally. Ancestral remains are now being viewed as the remains of past human beings that are considered by indigenous communities to be their ancestors, not objects, artifacts or specimens

for scientific study. New museum policies focused on repatriation of ancestral remains have resulted, as perspectives of the museum sector have changed. By changing the perspectives of the museum sector about ancestral remains, the views about ancestral remains having some form of identity have also be re-established. For instance, through osteological analysis for the purposes of provenancing for repatriation, the past identities of ancestral remains have been recovered. Through 'Community Reports,' including those produced at the National Museum of Australia, Pickering (pers. comm. 2021) reinforces this concept by highlighting that 'it gives [ancestral] remains some individual identity.' The information that is gained through osteological analysis, including age at death, sex, prevalence of pathologies or injuries and other historical information, can 'help to establish a more personal individual identity for… ancestral remains' (Pickering 2020).

Major changes to museum curation and storage practices have also helped to re-individualise ancestral remains and therefore, led to the restoring of their individual identities. For example, ancestral remains are now placed in separate storage, located away from the rest of the artifacts in museum collections, which has enabled ancestral remains to be viewed with dignity and respect and has also restricted access to them (Cassman et al. 2007; Clegg 2020; DCMS 2005; Roberts 2019; Swain 2016; Tapsell 2020; Walker 2008). Likewise, ancestral remains are now no longer stored anatomically but are individualised in storage, where ancestral remains belonging to one individual are placed in one box, as an individual human being, rather than stored as separate skeletal elements (Fforde 2009; Hayflick and Robbins 2020; Pardoe 2013; Robertson 2007; Weisse 2021b). This has restored ancestral remains to being viewed as past individuals and has allowed them to also be seen as past human beings, rather than objects. For example, ancestral remains at the Queensland Museum and the South Australian Museum are stored separately to their existing collections, have restricted access to these spaces and individual ancestral remains are stored in individual boxes and located, if known, based on geographic community groups (Weisse 2021b) or by geographical language groups, respectively (Anna Russo, pers. comm. 2021). Furthermore, at the Queensland Museum ancestral remains are grouped into an Indigenous social hierarchical structure, such as older individuals or Elders together, women and small children grouped together and men grouped together (Figure 8) (Weisse 2021b). These curatorial practices express not only respect for the individual identities and burial customs of ancestral remains but also, as Weisse (2021b) and Pardoe (2013) both suggest, importantly provides some form of comfort for the anxiety of living Indigenous peoples.

Figure 8. Ancestral remains storage at the Queensland Museum (Weisse 2021b:144).

Impacts of Re-Establishing Identity Through Bioarchaeology

The benefits for indigenous communities in using bioarchaeological methods to re-establish identities of ancestral remains, includes community empowerment and cultural renewal, as well as important funerary decision-making in communities, before and after repatriation.

By restoring the identities of ancestral remains through provenancing methods, indigenous communities gain significantly from this knowledge about their ancestors. By re-establishing identities for communities about their ancestral remains, indigenous communities become empowered, through the reconnection with their ancestors, both familiarly and culturally (Fforde 2004b; Pickering 2020; Weisse 2021b). By re-establishing identities for ancestral remains, the processes of repatriation have become more personalised for indigenous peoples and has created cultural renewal for communities (Weisse 2021b), by identifying themselves with the ancestral remains that are returned to their communities. Moreover, Weisse (2021b:193) reinforces that the reunification of ancestral remains with their communities is 'the final step in identity [re]formation' for ancestral remains, as the dispossession of ancestral remains from their original communities was the first step in their loss of identity.

Some indigenous communities want more extensive knowledge about the identities of ancestral remains that is re-established through bioarchaeological methods during repatriation processes. By restoring the biological identities of ancestral remains, including sex and age at death, communities are able to make informed funerary decisions, including different burial methods and rituals for individual remains. Indigenous communities need to be able to understand the sex and age at death of ancestral remains, so that they can determine how and where to rebury their ancestors (Fforde et al. 2021; Pardoe 2013; Anna Russo, pers. comm. 2021; Schaeppe and

Rowley 2020; Weiss 2008; Weisse 2021b; Wilson 2009). Therefore, it is incredibly important to indigenous communities that the identities of ancestral remains are re-established during repatriation processes, to enable decisions to be made regarding the appropriate funerary practices and cultural protocols to be enacted by communities.

Conclusions

Through different bioarchaeological methods, the identities of individual ancestral remains can be re-established for the benefits of indigenous communities. The object-identity transformation that occurred when ancestral remains were removed from their original communities and accessioned into institutions as specimens for scientific study, can be reversed through repatriation processes, by utilising both bioarchaeological and non-bioarchaeological provenancing methods, to assist in restoring knowledge about individual ancestral remains and therefore, their identity, before and after they are repatriated to their communities. Identity restoration is an incredibly important component of repatriation for indigenous communities and should continue to be explored further, to gain a deeper understanding into its value and meaning for indigenous stakeholders.

The Future of Bioarchaeology in Repatriation in Australia

Repatriation practices have not only begun to shift more towards indigenous-led approaches to provenancing ancestral remains, but have changed to allowing Australian Indigenous communities to have a more proactive role over the storage and responsibility for the care of poorly provenanced or unprovenanced ancestral remains in their custody, through their control over keeping places and newly developing resting places throughout Australia. Through the significant change in focus from museums to Traditional Custodians caring for ancestral remains in their local communities, bioarchaeology can continue to have an important long-term, collaborative management and research role following the current repatriation of ancestral remains to indigenous communities.

Clegg (2020) highlights that the fears of indigenous communities with destructive processes in provenancing ancestral remains may restrict the implementation of particular bioarchaeological methods that are currently utilised to provenance ancestral remains. However, that does not mean that these methods could not be implemented in the future, when communities feel that they have become more culturally acceptable or more comfortable with these developing provenancing methods (Clegg 2020). A current short-term solution that is employed in Australia, for the storage and care of ancestral remains but also offers an

opportunity for future bioarchaeological engagement, is the utilisation of keeping places, where ancestral remains are stored securely in local Indigenous communities rather than in museums and other institutional contexts and maintained and controlled by those communities.

Keeping Places

For 20 years, a keeping place has been maintained by the Kimberly Aboriginal Law and Cultural Centre (KALACC) at Fitzroy Crossing, northern Western Australia (Fforde et al. 2021; Knapman 2020; Ormond-Parker et al. 2020). Ancestral remains poorly provenanced to this region are stored and cared for by the local Indigenous communities, until provenance research is complete and discussions with communities about the reburial in Country of their ancestors has been finalised (Fforde et al. 2021; Ormond-Parker et al. 2020; Pickering 2020). KALACC utilises two insulated steel shipping containers, that are raised off the ground and have shade over their rooves, as the keeping place for the region's ancestral remains (Figure 9), which are considered to be a secure and stable environment for their repatriated ancestral remains (Neil Carter, pers. comm. 2021; Fforde et al. 2021; Ormond-Parker et al. 2020; Pickering 2020). Likewise, the Ngarrindjeri Regional Authority (NRA) also maintains a keeping place at Coorong, south-east of Adelaide, South Australia (see Figure 5) (Knapman 2020), for the provenanced ancestral remains of the local Ngarrindjeri Indigenous community.

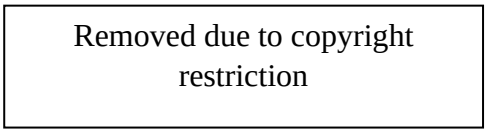

Figure 9. KALACC keeping place for repatriated ancestral remains, located at Fitzroy Crossing, Western Australia (Pickering 2020:84).

Keeping places can be steel shipping containers, concrete crypts, simple buildings, large gated concrete pipes or an annex to a cultural institution (Pate et al. 2020; Pickering 2020). They are considered as a temporary solution for the storage of poorly provenanced or provenanced ancestral remains, before provenance research or decision-making about the ancestral remains in their care can be completed or finalised, respectively (Pickering 2020). Additionally, keeping places allow for the possibility for future access to these ancestral remains, for bioarchaeological analysis for the purposes of providing more information about the provenance or identity of these ancestral remains (Campton and Lane 2020; Hubert and Fforde 2004; Morphy 2010; Pate et al. 2020). However, keeping places were not designed or considered to be appropriate spaces for the final resting places for Indigenous ancestral remains (Fforde et al. 2021) and therefore, developing solutions, including regional and National resting places, have been proposed and approved, as the solutions for poorly provenanced or unprovenanced ancestral remains, respectively.

Resting Places

Currently in Australia, resting places for Indigenous ancestral remains that are returned from overseas or remain unprovenanced continue to be stored and cared for in the National Museum of Australia or state museums, respectively, which is considered to be an inappropriate solution for the final resting places of ancestral remains, by both Indigenous and non-Indigenous stakeholders. Australian regional or National resting places have been suggested and supported by Traditional Custodians and the Australian Government, as long-term solutions and final resting places for Indigenous ancestral remains.

Regional resting places, for example the Kaurna Wangayarta Memorial Park, located at Smithfield Memorial Park, Adelaide, South Australia, is the first regional burial site in Australia and has been supported by both Indigenous communities and the Australian Government, as a long-term final resting place for the local Kaurna Indigenous community's ancestral remains (Figure 10) (Mullins 2021; Anna Russo, pers. comm. 2021; SAM 2022). Wangayarta, meaning grave, land, earth, ground and country, is a two-hectare purpose-built resting place for the Kaurna community (Mullins 2021; Anna Russo, pers. comm. 2021; SAM 2022). The regional burial site was developed and designed in partnership with the Kaurna community and in December 2021 and June 2022, the community held their first ceremonies at the burial site and reburied hundreds of their ancestral remains, which were repatriated back to the community from the South Australian Museum (Mullins 2021; Anna Russo, pers. comm. 2021; SAM 2022; SBS 2022).

Figure 10. An aerial photograph of the Kaurna Wangayarta Memorial Park, Adelaide, South Australia, designed in the shape of a traditional Kaurna shield (Mullins 2021).

Likewise, a specially designated and designed site has been proposed and recently approved by the Australian Government in 2022, as an Australian National resting place for unprovenanced Indigenous ancestral remains, named the Ngurra Cultural Precinct (NCP) (AIATSIS 2022). Nguura, meaning home or place of belonging (AIATSIS 2022), will be the National resting place for Indigenous Australian ancestral remains and will be located in Canberra, the Australian Capital Territory (Figure 11).

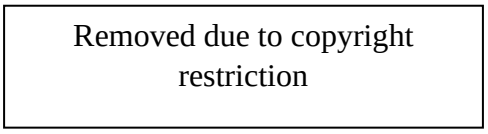

Figure 11. Location of the Ngurra Cultural Precinct in Canberra, Australian Capital Territory, highlighted by the black triangle (AIATSIS 2022).

The NCP will be a long-term solution for the storage and care of unprovenanced remains currently housed in museums, including fragmented and individual skeletal element ancestral remains and for the ancestral remains repatriated back to Australia from international institutions (AIATSIS 2022; Australian Government Office for the Arts 2022; Fforde et al. 2021; Hanchant 2004; Ministry for the Arts 2014; NMA 2020; Pickering 2020). The NCP will be considered as a more culturally appropriate facility for unprovenanced ancestral remains than museums and other institutions, as it will be Indigenous-led and staffed and has been a long sought-after, long-term solution by Indigenous Australians as a final resting place for their unprovenanced ancestral remains (AIATSIS 2022). Provenance research, including bioarchaeological methods, will continue to be able to be pursued at the NCP for repatriation purposes (AIATSIS 2022), as new or developing methods are implemented or existing methods are considered and approved by Traditional Custodians. The NCP is considered by Indigenous peoples to be a place where ‘our ancestors will be cared for and respected into the future’ (Australian Government Office for the Arts 2022).

Australian Best Practice

In some cases, within heritage management and museum contexts, archaeologists have established effective collaborative relationships with Traditional Custodians, which have resulted in the development of an Indigenous familiarity with the value of a range of archaeological and historical methods, including bioarchaeology. For example, the long-term collaborative relations between local Indigenous communities and South Australian Museum archaeologists, anthropologists and historians, that was initiated by Graeme Pretty (Pate 2000,

2001, 2006; Pate and Crawford 2001; Pate et al. 1998b; Pretty 1977; 1986) provides an instructive case study. The establishment of this indigenous archaeology methodology of working collaboratively with South Australian Museum staff and Indigenous communities, facilitated the development of other similar collaborative partnerships between South Australian archaeologists and Traditional Owners (see Appendix 6 and 7) (Jones et al. 2022) and became a model for Australian best practice. Consequently, there has been a long history in South Australia of Indigenous communities employing a range of destructive and non-destructive bioarchaeological methods, including radiocarbon dating, isotope and osteological analysis, in partnership with the museum sector and archaeologists in the field, to expand Indigenous knowledge about their past lifeways, including site chronology, landscape use, diet and past health. Thus, South Australia should be a model for best practice for the future employment of indigenous archaeology in repatriation processes, archaeology and cultural heritage management contexts and the utilisation of bioarchaeological methods in repatriation contexts globally.

Conclusions

With the Ngurra Cultural Precinct (NCP) being Indigenous-led and staffed, an Indigenous Board, in charge of decision-making regarding consent and the methods employed to provenance ancestral remains within the NCP, should be developed in conjunction with the facility. The Indigenous Board should have the authority to be able to be the "voice" for unprovenanced ancestral remains, as currently, 'a consent impasse' (Weisse 2021b) exists regarding the free, prior and informed consent to use destructive methods to provenance unprovenanced ancestral remains (AIATSIS 2012; 2020; Fforde et al. 2021; NHMRC 2018; Weisse 2021b). Without the knowledge of the original provenance of ancestral remains, the rightful Indigenous community cannot be identified to provide consent for provenance research to be conducted. Consequently, at present it is difficult to initiate provenancing methods for unprovenanced ancestral remains (Australian Government Office for the Arts 2021). If the NCP could develop an Indigenous-led Board that could be granted the rights and authority by Traditional Owners Australia-wide to give consent on their communities' behalf for provenance research to be conducted, unprovenanced remains would be able to be analysed ethically, using both destructive and non-destructive bioarchaeological methods and other beneficial techniques, to ascertain the provenance of ancestral remains in the care of the NCP for their repatriation back to Country.

Moreover, bioarchaeology will continue to be a significant component of repatriation into the future because of its important contributions to provenance research of ancestral remains. With the location of ancestral remains changing in the future to be stored and cared for in local community keeping and resting places or in the Ngurra Cultural Precinct, rather than in museums and other institutions, bioarchaeology will only increase in importance for re-establishing provenance and re-identifying ancestral remains for indigenous communities that are currently poorly provenanced or remain unprovenanced.

Likewise, South Australia's archaeology and heritage management should be a model for best practice for the future employment of indigenous archaeology in repatriation processes, archaeology and cultural heritage management contexts throughout Australia and also a best practice model for the utilisation of bioarchaeological methods in repatriation contexts globally.

Conclusion

This chapter thoroughly answers the research question by exploring what significant information can be obtained through bioarchaeological methods that can assist in achieving accurate repatriations by provenancing poorly provenanced and unprovenanced ancestral remains. It also accomplishes some of the main aims of the thesis by definitively answering what bioarchaeology can contribute to the repatriation process and highlighting the benefits, from bioarchaeological methods, of re-establishing the identities of individual ancestral remains. Additionally, this chapter answers one of the main aims of the thesis, by providing extensive information about the uses, strengths and limitations of bioarchaeological and non-bioarchaeological methods, that could be employed by indigenous communities to guide their decision-making, regarding the various provenancing methods available for their consideration.

Chapter 6: Conclusion

Introduction

As museums shift focus towards providing provenance for the unprovenanced ancestral remains in their care, there is a need for the employment of trained professionals in bioarchaeology in museums and institutions, as well as a need for new and advancing techniques from other disciplines to be embraced by the repatriation sector. A move towards a more indigenous archaeologies view of heritage management and provenance repatriation processes likewise, needs to be employed in a repatriation context, to ensure that this process becomes more indigenous-led and controlled into the future. This chapter considers these issues and likewise, summarises the research question, aims, the limitations of the thesis, as well as provides suggestions for future research and the general findings of the thesis.

Research Question and Aims

The thesis has investigated: How can bioarchaeological methods contribute to the repatriation of unprovenanced or poorly provenanced indigenous ancestral remains?

The specific aims to address this question were:

- To understand repatriation and recognise why it is important to indigenous and non-indigenous individuals.
- To comprehend what bioarcheology can contribute to the repatriation process, in particular for unprovenanced and poorly provenanced ancestral remains.
- To understand if bioarchaeology can assist in re-establishing identities for individual ancestral remains.
- To provide a framework for indigenous communities to assist in understanding the uses, strengths and limitations of bioarchaeological methods.

Limitations of Study

One challenge encountered during the thesis was the use of email for correspondence and personal communication purposes with museum repatriation practitioners, due to travel restrictions associated with mandatory state lockdowns across Australia during the Covid-19 pandemic.

Another challenge for the thesis was the number of individuals able to undertake informal discussions was limited to public service repatriation practitioners in Australia only.

Individuals from international institutions would have enabled greater global knowledge about the employment of bioarchaeology in global museums and likewise, involving indigenous peoples would have also provided different perspectives regarding bioarchaeology in the processes of repatriation.

Further Research

Identity restoration is an incredibly important component of repatriation for indigenous communities and has not been extensively explored in the literature to date. The concept of re-establishing identity for ancestral remains should continue to be further explored, to gain more knowledge and a deeper understanding into its value, meaning and benefits for indigenous communities.

Likewise, an investigation into the impacts of the permanently employed bioarchaeological staff based in overseas archaeology, heritage management, museum and institutional sectors, such as the UK and USA, could be used to gain a deeper understanding into the strength and limitations of permanently employing trained individuals in bioarchaeology in the heritage and museum sectors in Australia.

Conclusion

The collaboration that has resulted from repatriation has allowed indigenous communities to begin to involve bioarchaeology in research studies and cultural heritage management. For instance, indigenous communities have been and continue to be, directly involved in the excavation of ancestral remains at archaeological and cultural heritage sites and provide support for the scientific study of these remains and other remains already held in museum collections. More importantly, bioarchaeology has also become more prevalent in the context of provenancing research for repatriation of ancestral remains. Bioarcheologists make significant contributions to the repatriation process, their knowledge can be extremely valuable for all stakeholders and their future engagement in the repatriation sector needs to be employed more predominantly within institutions globally, to successfully re-individualise, re-identify and repatriate ancestral remains.

Bioarchaeology will continue to be a significant component of repatriation and cultural heritage management into the future because of its important contributions to provenance research of ancestral remains. With the location of ancestral remains changing in the future to be stored and cared for in local community keeping and resting places or in the Ngurra Cultural Precinct,

rather than in museums and other institutions, bioarchaeology will only increase in importance for re-establishing provenance and re-identifying ancestral remains for indigenous communities, that are currently unprovenanced. More indigenous community education in non-destructive bioarchaeological repatriation methods is required and to also educate the museum sector about the importance of re-affirming identity and restoring personhood to ancestral remains through repatriation. Additionally, there is also a need for training professionals and employment of professionals in bioarchaeology permanently within museums, institutions and heritage management settings, as bioarchaeological methods become more increasingly important in provenancing unprovenanced ancestral remains.

As the practice of repatriation in museums becomes increasingly more difficult, with single elements of individuals, fragmented or unprovenanced remains as the last remaining ancestral remains to be repatriated back to indigenous communities, a shift in focus is needed for provenancing unprovenanced or poorly provenanced ancestral remains. The change of focus needs to incorporate new and emerging methods mentioned in the thesis, both destructive and non-destructive, to become considered and incorporated by all stakeholders into the processes of repatriation. To enable the best results for ancestral remains to be repatriated from museums back to their communities, the museum sector needs to integrate not only existing bioarchaeological methods into provenancing, including a range of osteological and isotopic analyses, but needs to embrace new approaches from other disciplines with emerging potential in this area, including soil analyses, UV light and infrared photography or bone soaking. Likewise, provenancing methods need to be accepted by all stakeholders, which means that changes are needed to directly engage indigenous people in provenancing processes and acceptance of their inclusion by the museum sector. Traditional indigenous knowledge may not be a future method accepted wholeheartedly by the museum sector into repatriation processes, but it is a method that has merit for its indigenous-led, non-destructive approach to provenancing ancestral remains, that is considered culturally appropriate by indigenous communities. Similar or new methods of indigenous-led provenancing need to be considered in the processes of provenancing ancestral remains for repatriation to continue to be successful into the future.

The relevance of the research in this thesis is timely, as repatriation processes involving unprovenanced indigenous ancestral remains have become the main focus for most museums (Michael Pickering, pers. comm. 2021). Indigenous communities need to make fully informed decisions about which provenancing method/s to employ, in order to achieve the best or most

successful outcomes. By incorporating bioarchaeological methods into repatriation processes, these methods can assist in accurately returning ancestral remains to their original communities and also contribute to re-establishing identities or personhoods for ancestral remains, for the benefit of their indigenous communities.

References

Aboriginal and Torres Strait Islander: Repatriation 2019 *Indigenous Repatriation—International, Factsheet*. Canberra: Department of Communications and the Arts, Commonwealth of Australia.

Adams, C., F.D. Pate, T.D. Owen, D. Bruce, K. Nielson, R. Klaebe, M. Henneberg and I. Moffat 2022 'Do dead men tell no tales?' Geographic origin of a colonial period Anglican cemetery population in Adelaide, South Australia, determined by isotope analyses. *Australian Archaeology*, 88(2):144–158.

Adams, S., R. Grun, D. McGahan, J.X. Zhao, Y. Feng, A. Nguyen, M. Williams, M. Quaresimin, B. Lobsey, M. Collard and M.C. Westaway 2019 A strontium isoscape of north-east Australia for human provenance and repatriation. *Geoarchaeology* 34:231–251.

———, M. Collard, D. Williams, C. Flinders, S. Wasef and M.C. Westaway 2020 A community bioarchaeology project in the Flinders Group, Queensland, Australia. *Archaeologies* 16(3):436–459.

———, M.C. Westaway, D. McGahan, D. Williams, J. Zhao, Y. Feng, A. Nguyen, J. Pearce, C. Flinders and M. Collard 2021 Isotopic analyses of prehistoric human remains from the Flinders Group, Queensland, Australia, support an association between burial practices and status. *Archaeological and Anthropological Sciences* 13(121):1–17.

Aird, M. 2002 Developments in the repatriation of human remains and other cultural items in Queensland, Australia. In C. Fforde, J. Hubert and P. Turnbull (eds), *The Dead and their Possessions: Repatriation in Principle, Policy and Practice*, pp.304–311. London: Routledge.

Alfonso, M.P. and J. Powell 2007 Ethics of flesh and bone, or ethics in the practice of paleopathology, osteology, and bioarchaeology. In V. Cassman, N. Odegaard and J. Powell (eds), *Human Remains: Guide for Museums and Academic Institutions*, pp.5–20. New York: AltaMira Press.

Aranui, A. 2020 Restitution or a loss to science? Understanding the importance of returning Maori ancestral remains. *Museum and Society* 18(1):19–29.

———, C. Fforde, M. Pickering, P. Turnbull, G. Knapman and H. Keeler 2020 ‘Under the hammer’: The role of auction houses and dealers in the distribution of Indigenous ancestral remains. In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.335–360. New York: Routledge.

Atkinson, H. 2010 The meaning and values of repatriation. In P. Turnbull and M. Pickering (eds), *The Long Way Home: The Meanings and Values of Repatriation*, pp. 15–19. New York: Berghahn Books.

Australian Government 1984 *Aboriginal and Torres Strait Islander Heritage Protection Act*. Retrieved 26 March 2022 from < https://www.legislation.gov.au/ Details/ C2004C00350 >.

——— 2016 *Australian Government Policy on Indigenous Repatriation*. Canberra: Department of Communication and the Arts, Commonwealth of Australia.

——— 2018 *Information for Communities Scientific Testing on Indigenous Ancestral Remains*. Canberra: Department of Communication and the Arts, Commonwealth of Australia.

Australian Government Office for the Arts 2020 Domestic Repatriation. Retrieved 15 November 2020 from < https://www.arts.gov.au/what-we-do/cultural-heritage/indigenous-repatriation/domestic-repatriation >.

——— 2021 Research. Retrieved 12 January 2022 from < https://www.arts.gov.au/what-we-do/culturalheritage/indigenousrepatriation/research?msclkid=9cb4a918be0b11ec90e08e21539f9312 >.

——— 2022 National Resting Place. Retrieved 18 April 2022 from < https://www.arts.gov.au/ what-we-do/ cultural-heritage/indigenous- repatriation /nationalrestingplace#:~:text= National%20Resting%20Place%20On%205%20January%202022%2C%20the,Torres%20Strait%20Islander%20cultural%20precinct%20in%20Canberra%E2%80%94Ngurra%20Precinct.?msclkid=6c19b8e7b8b611ec92fdb848633b6895 >.

Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) 2012 *Guidelines for Ethical Research in Australian Indigenous Studies*. Canberra: Australian Institute of Aboriginal and Torres Strait Islander Studies.

——— 2016 *Records of Broadbeach Aboriginal Burial Ground Excavation (Q1): 1965–1967*. Retrieved 20 June 2022 from < https://aiatsis.gov.au/sites/default/files/catalogue_resources/ms5055_broadbeach_excavationfindingaid.pdf >.

——— 2022 Ngurra Cultural Precinct. Retrieved 18 April 2022 from < https://aiatsis.gov.au/ngurra >.

Australian Museum 2007 *Australian Museums Repatriation Policy for Australian Aboriginal Secret/Sacred and Aboriginal Ancestral Remains Collections*. Sydney: The Australian Museum.

Ayau, E.H. 2005 Honour thy ancestor's possessions. *Public Archaeology* 4:193–197.

Bamford, M. 2017 Aboriginal remains exposed by floodwaters repatriated to higher ground. Retrieved 16 September 2021 from < https://www.abc.net.au/news/2017-09-27/aboriginal-remains-exposed-by-floodwaters-repatriated/8992994 >.

Bass, William M. 2005 *Human Osteology: A Laboratory and Field Manual, 5th edition*. Columbia, Missouri: Missouri Archaeological Society.

BDRC 2009 *Research into Issues Surrounding Human Bones in Museums*. London: English Heritage.

Bell, L. 2010 Museums, ethics and human remains in England: Recent developments and implications for the future. In P. Turnbull and M. Pickering (eds), *The Long Way Home: The Meanings and Values of Repatriation*, pp. 29–34. New York: Berghahn Books.

Bernard, H.R. 2017 *Research Methods in Anthropology: Qualitative and Quantitative Approaches.* New York: Rowman and Littlefield.

Besterman, T.P. 2020 Contested human remains in museums. In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew* pp. 940–960. New York: Routledge.

Bethard, J.D. and E.A. DiGangi 2020 Letter to the editor– moving beyond a lost cause: Forensic anthropology and ancestry estimates in the United States. *Journal of Forensic Sciences* 65(5):1791–1792.

Bewes, J., A. Low, A. Morphett, F.D. Pate and M. Henneberg 2019 Artificial intelligence for sex classification of skeletal remains: Application of a deep learning neural network to human skulls. *Journal of Forensic and Legal Medicine* 62:40–43.

Blair, L. 2016 *Writing a Graduate Thesis or Dissertation*. Rotterdam: Sense Publishers.

Boutin, A.T., M. Long, R.A. Dinarte and E.R. Thompson 2017 Building a better bioarchaeology through community collaboration. *Bioarchaeology International* 1(3–4):191–204.

Bowdler, S. 1992 Unquiet slumbers: The return of the Kow Swamp burials. *Antiquity* 66(250):103–106.

Bowler, J.M., H. Johnston, J.M. Olley and J.R. Prescott 2003 New ages for human occupation and climatic change at Lake Mungo, Australia. *Nature* 421:837–840.

British Association of Biological Anthropology and Osteoarchaeology (BABAO) 2019 *BABAO recommendations on the ethical issues surrounding 2D and 3D digital imaging of human remains*. London: British Association of Biological Anthropology and Osteoarchaeology.

British Museum 2019 *British Museum Policy: Human Remains in the Collection*. London: The British Museum.

Brown, A.G. 2006 The use of forensic botany and geology in war crimes investigations in NE Bosnia. *Forensic Science International* 163(2006):204–210.

Buikstra, J.E. 2006 Repatriation and bioarchaeology: Challenges and opportunities. In J.E. Buikstra and L.A. Beck (eds), *Bioarchaeology: The Contextual Analysis of Human Remains*, pp.389–415. London: Elsevier.

——— 2019 *Ortner's Identification of Pathological Conditions in Human Skeletal Remains*. San Diego: Academic Press.

——— and D.H. Ubelaker 1994 Standards for data collection from human skeletal remains. *Arkansas Archaeological Survey Research Series, No. 44*. Fayettevile, Arkansas.

Campton, S. and R. Lane 2020 The return of ancestral remains from the Natural History Museum, London, to Torres Strait Islander Traditional Owners: The institutional and governmental view. In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew* pp. 709–718. New York: Routledge.

Cassman, V. and N. Odegaard 2007 Examination and analysis. In V. Cassman, N. Odegaard and J. Powell (eds), *Human Remains: Guide for Museums and Academic Institutions*, pp.49–76. New York: AltaMira Press.

———, N. Odegaard and J. Powell 2007 Introduction: Dealing with the dead. In V. Cassman, N. Odegaard and J. Powell (eds), *Human Remains: Guide for Museums and Academic Institutions*, pp.1–4. New York: AltaMira Press.

Chatters, J.C. 2014 Geography, paleoecology and archaeology. In D.W. Owsley and R.L. Jantz (eds), *Kennewick Man: The Scientific Investigation of an Ancient American Skeleton*, pp.30–58. Texas: Texas A&M University Press.

Clegg, M. 2020 *Human Remains: Curation, Reburial and Repatriation*. Cambridge: Cambridge University Press.

Collard, M., S. Wasef, S. Adams, K. Wright, R.J. Mitchell, J.L. Wright, G. Wrobel, N. Nagle, A. Millar, R. Wood, T.J. Pietsch, S. Van Holst Pellekaan, C. Flinders and M.C. Westaway 2019 Giving it a burl: Towards the integration of genetic, isotope chemistry, and osteoarchaeology in Cape York, tropical North Queensland, Australia. *World Archaeology* 51(4):602–619.

Colwell-Chanthaphonh, C., T.J. Ferguson, D. Lippett, R.H. McGuire, G.P. Nicholas, J.E. Watkins and L.J. Zimmerman 2010 The premise and promise of Indigenous archaeology. *American Antiquity* 75(2):228–238.

Creamer, H. 1990 Aboriginal perceptions of the past: The implications for cultural resource management in Australia, In P. Gathercole and D. Lowenthal (eds), *The Politics of the Past*, pp.130–138. London: Routledge.

Cubillo, F. 2010 Repatriating our ancestors: Who will speak for the dead. In P. Turnbull and M. Pickering (eds), *The Long Way Home: The Meanings and Values of Repatriation*, pp. 20–26. New York: Berghahn Books.

Cybulski, J.S. 2011 Canada. In N. Marquez-Grant and L. Fibiger (eds), *The Routledge Handbook of Archaeological Human Remains and Legislation: An International Guide to Law and Practice in the Excavation and Treatment of Archaeological Human Remains*, pp.647–655. Florence: Taylor and Francis Group.

Daley, P. 2020 The room of the dead: How a museum became a halfway house for bones and spirits. Retrieved 9 April 2021 from < www.theguradian.com/australia-news/2020/jul/05/the-room-of-the-dead-how-a-museum-became-a-halfway-house-for-bones-and-spirits >.

Darwin, C. 1906 *The Origin of Species: By Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life, Sixth Edition.* Cambridge: Cambridge University Press.

Denzin, N., Y. Lincoln and L. Tuhiwai Smith 2008 *Handbook of Critical and Indigenous Methodologies*. Thousand Oaks, California: SAGE.

Department for Culture, Media and Sport (DCMS) 2003 *The Report of the Working Group on Human Remains*. London: Department for Culture, Media and Sport.

——— 2005 *Guidance for the Care of Human Remains in Museums*. Retrieved 21 November 2020 from < https://assets.publishing.service.gov.uk/government /uploads/system/uploads/attachment_data/file/906601/GuidanceHumanRemains11 Oct.pdf >.

de Villiers, A., Y. Wajon and M. Pickering 2021 Organisation: National Museum of Australia (1980-). Retrieved 24 July 2021 from <https://returnreconcilerenew.info /ohrm/biogs/E0000178b.htm >.

Donlon, D. and J. Littleton 2011 Australia. In N. Marquez-Grant and L. Fibiger (eds), *The Routledge Handbook of Archaeological Human Remains and Legislation: An International Guide to Law and Practice in the Excavation and Treatment of Archaeological Human Remains*, pp.689–690. Florence: Taylor and Francis Group.

Draper, N. 2015 Recording traditional Kaurna cultural values in Adelaide– the continuity of Aboriginal cultural traditions within an Australian capital city. *Historic Environment* 27(1):78–89.

Elvery, M.W., N.W. Savage and W.B. Wood 1998 Radiographic study of the Broadbeach Aboriginal dentition. *American Journal of Physical Anthropology* 107:211–219.

Fforde, C. 2002 Yagan. In C. Fforde, J. Hubert and P. Turnbull (eds), *The Dead and their Possessions: Repatriation in Principle, Policy and Practice*, pp.229–241. London: Routledge.

——— 2004a Collection, repatriation and identity. In C. Fforde, J. Hubert and P. Turnbull (eds), *The Dead and their Possessions: Repatriation in Principle, Policy and Practice*, pp.25–46. London: Routledge.

——— 2004b *Collecting the Dead: Archaeology and the Reburial Issue*. London: Gerald Duckworth and Co. Ltd.

——— 2009 From Edinburgh University to the Ngarrindjeri Nation, South Australia. *Museum International* 61(1–2):41–47.

——— 2013 In search of others: The history and legacy of 'race' collections. In S. Tarlow and L. Nilsson Stutz (eds), *The Oxford Handbook of The Archaeology of Death and Burial*, pp.709–731. Oxford: Oxford University Press.

——— and J. Hubert 2006 Indigenous human remains and changing museum ideology. In R. Layton, S. Shennan and P. Store (eds), *The Future for Archaeology*, pp.83–96. London: UCL Press.

——— and J. Oscar 2020 'Australian Aborigine skulls in a loft in Birmingham, it seems a weird thing': Repatriation work and the search for Jandamarra. In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.588–609. New York: Routledge.

———, J. Hubert and P. Turnbull 2004 Preface to the paperback edition. In C. Fforde, J. Hubert and P. Turnbull (eds), *The Dead and their Possessions: Repatriation in Principle, Policy and Practice*, pp.xiv–xvi. London: Routledge.

———, H. Keeler, A. Aranui, M. Pickering and A. Goodman 2020 Research for repatriation practice. In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.541–563. New York: Routledge.

———, G. Knapman and C. Walsh 2020b Dignified relationships: Repatriation, healing and reconciliation. In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.745–768. New York: Routledge.

———, P. Turnbull, N. Carter and A. Aranui 2020c Missionaries and the removal, illegal export, and return of ancestral remains: The case of Father Ernst Worms. In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.316–334. New York: Routledge.

———, G. Knapman and C. Walsh 2020d Dignified relationships: Repatriation, healing and reconciliation. In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.745–768. New York: Routledge.

———, C.T. McKeown, H. Keeler, L. Ormond-Parker, P. Tapsell, P. Turnbull, S. Hemming, D. Rigney, M. Pickering, A. Aranui, W. Morris and G. Knapman 2021 Identity in applied repatriation research and practice. In C.H. Meloche, L. Spake and K.L. Nichols (eds), *Working with and for Ancestors: Collaboration in the Care and Study of Ancestral Remains*, pp.255–266. New York: Routledge.

Fine-Dare, K.S. 2002 *Grave Injustice: The American Indian Repatriation Movement*. Lincoln: University of Nebraska Press.

Finkel, E. 1998 Aboriginal groups warm to Studies of Early Australians. *Science* 280:1342–1343.

Giles, M and H. Williams 2016 Introduction: Mortuary archaeology in contemporary society. In H. Williams and M. Giles (eds), *Archaeologists and the Dead: Mortuary Archaeology in Contemporary Society*, pp.1–18. Oxford: Oxford University Press.

Gilmore, H., A. Aranui and S.E. Halcrow 2019 Ethical issues of bioarcheology in New Zealand– Aotearoa: Relationships, research and repatriation. In K. Squires, D. Errickson and N. Marquez-Grant (eds), *Ethical Approaches to Human Remains*, pp.431–445. Cham, Switzerland: Springer.

Grant, C., P. Gordon, O. Robinson, B. Weatherall, N. Carter, H. Atkinson, J. Crew and C. Wilson 2010 *Discussion paper on a review of the International Repatriation Program*. Canberra: International Repatriation Advisory Committee– Department of Families, Housing, Community Services and Indigenous Affairs, Commonwealth of Australia.

Hanchant, D. 2004 Practicalities in the return of remains: the importance of provenance and the question of unprovenanced remains. In C. Fforde, J. Hubert and P. Turnbull (eds), *The Dead and their Possessions: Repatriation in Principle, Policy and Practice*, pp.312–316. London: Routledge.

Harris, F. 2015 Understanding human remains repatriation: Practice procedures at the British Museum and the Natural History Museum. *Museum Management and Curatorship* 30(2):138–153.

Harris, H. 2005 Indigenous worldviews and ways of knowing as theoretical and methodological foundations for archaeological research. In C. Smith and H.M. Wobst (eds), *Indigenous Archaeologies: Decolonising Theory and Practice*, pp.30–37. Florence: Taylor and Frances Group.

Hayflick, E. and H.A. Robbins 2020 Towards a twenty-first century model for the collaborative care and curation of human remains. In C.H. Meloche, L. Spake and K.L. Nichols (eds), *Working With and For Ancestors: Collaboration in the Care and Study of Ancestral Remains*, pp. 103–114. New York: Routledge.

Hemming, S. and C. Wilson 2010 The first 'Stolen Generations:' Repatriation and reburial in Ngarrindjeri Ruwe (Country). In P. Turnbull and M. Pickering (eds), *The Long Way Home: The Meanings and Values of Repatriation*, pp. 183–198. New York: Berghahn Books.

———, D. Rigney, M. Sumner, L. Trevorrow, L. Rankine Jr, S. Berg and C. Wilson 2020 Ngarrindjeri repatriation: Kungun Ngarrindjeri Yunnam (listen to Ngarrindjeri speaking). In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.147–164. New York: Routledge.

Henson, K., P. Constantino, F.R. O'Keefe and G. Popovich 2019 Three-dimensional scanning and printing techniques to analyse and archive human skeletal remains. *Library H: Tech* 37(3):389–400.

Hill, E.C., O.M Pearson, A.C. Durband, K. Walshe, K.J. Carlson and F.E. Grine 2020 An examination of the cross-sectional geometric properties of the long bone diaphysis of Holocene foragers from Roonka, South Australia. *American Journal of Physical Anthropology* 172(4):682–697.

Huber, A. 2020 Genomic testing of ancient DNA: The case of the Ancient One (also known as Kennewick Man). In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.625–636. New York: Routledge.

Hubert, J. 1989 A proper place for the dead: a critical review of the 'reburial' issue. In R. Layton (ed.) *Conflict in the Archaeology of Living Traditions*, pp.133–169. Florence: Taylor and Francis Group.

——— and C. Fforde 2004 Introduction: The reburial issue in the twenty-first century. In C. Fforde, J. Hubert and P. Turnbull (eds), *The Dead and their Possessions: Repatriation in Principle, Policy and Practice*, pp.1–16. London: Routledge.

Human Tissue Act– England, Ireland and Wales 2004. Retrieved 21 November 2020 from < https://www.legislation.gov.uk/ukpga/2004/30/contents >.

International Council of Museums (ICOM) 2004 *ICOM Code of Ethics for Museums*. Paris: UNESCO.

Jackson, G. and C. Smith 2005 Living and learning on Aboriginal lands: Decolonizing archaeology in practice. In C. Smith and H.M. Wobst (eds), *Indigenous Archaeologies: Decolonising Theory and Practice*, pp.309–330. Florence: Taylor and Frances Group.

Janke, T. and Company 2018 *First Peoples– Connecting Custodians: Principles and Guidelines for Australian Museums and Galleries Working with First Peoples Cultural Material, Draft for Consultation*. Canberra: Australian Museums and Galleries Association Incorporated.

——— 2018b *First Peoples and Australian Museums and Galleries: A Report on the Engagement of Indigenous Australians in the Museum and Galleries Sector, Written for the Australian Museums and Galleries Association, 2018.* Canberra: Australian Museums and Galleries Association.

——— and M. Sentina 2018 *Indigenous Knowledge: Issues for Protection and Management, Discussion Paper*. Sydney: Terri Janke and Company Pty Ltd and IP Australia.

Jenkins, T. 2011 *Contesting Human Remains in Museum Collections: The Crisis of Cultural Authority*. New York: Routledge.

——— 2016 *Keeping Their Marbles: How the Treasures of the Past Ended Up in Museums–and Why They Should Stay There*. Oxford: Oxford University Press.

Jones, P. 1988 Collections and curators: South Australian Museum Anthropology from the 1860s to the 1920s. *Journal of the Historical Society of SA* 16:87–103.

Jones, R., A.L. Roberts, C. Westell, I. Moffat, G. Jacobsen, R. Rudd and River Murray and Mallee Aboriginal Corporation 2022 Aboriginal earth mounds of the Calperum Floodplain (Murray Darling Basin, South Australia): New radiocarbon dates, sediment analyses and syntheses, and implications for behavioural change. *The Holocene*, 32(8):816–834.

Kakaliouras, A.M. 2008 Leaving few bones unturned: Recent work on repatriation by osteologists. *American Anthropologist* 110(1):44–52.

Knapman, G. 2020 'Let them rest in peace': Exploring interconnections between repatriation from museums and battlefield contexts. In C. Fforde, H. Keeler and C.T. McKeown (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.874–889. New York: Routledge.

Larkins, D. and B. Young 2015 *Gold Coast Indigenous Burial Ground Marks 50 Years Since Discovery*. Retrieved 20 June 2022 from < https://www.abc.net.au/news/2015-11-13/gold-coast-indigenous-burial-ground-marks-50-years/6939962#:~:text=In%201988%2C%20after%20years%20of%20lobbying%20the%20university%2C,back%20in%20the%20right%20spot%2C%22%20Ms%20Haglund%20said. >.

Larsen, C.S. 2015 *Bioarchaeology: Interpreting Behavior from the Human Skeleton.* Cambridge: Cambridge University Press.

Littleton, J., F. Petchey, K. Walshe and F.D. Pate 2017 A preliminary redating of the Holocene Roonka burials, south-eastern Australia. *Archaeology in Oceania* 52(2017):98–107.

Loveless, R. and B. Linton 2019 Culturally sensitive and scientifically sound: Ethical challenges of human osteology in contemporary archaeology in the United States of America. In K. Squires, D. Errickson and N. Marquez-Grant (eds), *Ethical Approaches to Human Remains*, pp.401–426. Cham, Switzerland: Springer.

Mays, S. 2010 *The Archaeology of Human Bones.* London: Routledge.

——— 2011 The scientific study of human skeletal remains. *English Heritage Conservation Bulletin* 66:5–7.

McKeown, T. 2021 *Place: United States of America*. Retrieved 24 July 2021 from < https:// returnreconcilerenew.info/ohrm/biogs/E0002443b.htm >.

McManamon, F.P. 2006 Policy and practice in the treatment of archaeological human remains in North American museum and public agency collections. In J. Lohman and K. Goodnow (eds), *Human Remains and Museum Practice*, pp.48–59. Paris: UNESCO.

Ministry for the Arts 2014 *National Resting Place Consultation Report 2014: Advisory Committee for Indigenous Repatriation*. Canberra: Ministry for the Arts.

Molleson, T., M. Cox, A.H. Waldron and D.K. Whittaker 1993 The Spitalfields Project: Volume 2– The Anthropology, The Middling Sort. *CBA Research Report* 86. York: Council for British Archaeology.

Monash University 2022 Inclusive Language. Retrieved 8 May 2022 from < https:// www.monash.edu/about/editorialstyle/writing/inclusive-language >.

Morphy, H. 2010 Scientific knowledge and rights in skeletal remains– Dilemmas in the curation of ‘other’ people’s bones. In P. Turnbull and M. Pickering (eds), *The Long Way Home: The Meanings and Values of Repatriation*, pp. 147–162. New York: Berghahn Books.

Morris, A.G. 2007 Documentation: History and the sources of skeletons in collections. In V. Cassman, N. Odegaard and J. Powell (eds), *Human Remains: Guide for Museums and Academic Institutions,* pp.151–161. New York: AltaMira Press.

———, T. Sullivan and D. Griffin 2002 Implementing NAGPRA: The effective management of legislated change in museums. *Management Decision* 40(1):35–49.

Morton, S. 2020 Inside the human remains store: The impact of repatriation on museum practice in the United Kingdom. In C. Fforde, H. Keeler and C.T. McKeown (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.902–917. New York: Routledge.

Mullins, S. 2021 SA Museum apologises for holding 4,600 Aboriginal remains as first repatriation laid to rest on Country. Retrieved 20 March 2022 from < https:// www. abc.net.au/news/2021-12-07/kaurna-aboriginal-ancestral-remains-laid-to-rest/ 100680848 >.

Mulvaney, J. 1991 Past regained, future lost: the Kow Swamp Pleistocene burials. *Antiquity* 65(246):12–21.

Museum of London 2011 *Policy for the Care of Human Remains in Museum of London Collections*. London: Museum of London Human Remains Working Group.

Museum of New Zealand, Te Papa Tongarewa (Te Papa) 2020 The Karanga Aotearoa Repatriation Programme. Retrieved 21 November 2020 from < https://www. tepapa.govt.nz/about/repatriation/karanga-aotearoa-repatriation-programme >.

Museums Australia 2000 *Previous Possessions, New Obligations: Policies for Museums in Australia.* Canberra: Museums Australia Inc.

——— 2005 *Continuous Cultures, Ongoing Responsibilities: Principles and Guidelines for Australian Museums Working with Aboriginal and Torres Strait Islander Cultural Heritage*. Canberra: Museums Australia Inc.

Museums Galleries Scotland 2011 *Guidelines for the Care of Human Remains in Scottish Museum Collections*. Edinburgh: Museums Galleries Scotland.

Museums of New Zealand 2021 National Repatriation Policy for Koiwi Tangata and Associated Burial Taonga within Aotearoa. Wellington: Museums of New Zealand Inc.

Native American Graves Protection and Repatriation Act (NAGPRA) 1990. Retrieved 21 November 2020 from < https://www.blm.gov/sites/blm.gov/files/Native%20American%20Graves%20Protection%20and%20Repatriation%20Act.pdf >.

National Centre for Indigenous Genomics (NCIG) 2018 NCIG Governance Framework. Retrieved 14 September 2021 from < https://ncig.anu.edu.au/files/NCIG-Governance-Framework.pdf >.

——— 2018b Ethics Protocol. Retrieved 14 September 2021 from < https://ncig.anu.edu.au/files/NCIG-Ethics-Protocol_21082018.pdf >.

——— 2019 Annual Report 2019. Canberra: Australian National University.

National Health and Medical Research Council (NHMRC) 2018 *Ethical Conduct in Research with Aboriginal and Torres Strait Islander Peoples and Communities: Guidelines for Researchers and Stakeholders*. Canberra: Commonwealth of Australia.

National Museum of Australia (NMA) 2019 *Australian Aboriginal and Torres Strait Islander Ancestral Human Remains Management and Repatriation Policy*. Canberra: National Museum of Australia.

——— 2020 *Conservation Report for a National Resting Place*. Canberra: National Museum of Australia.

National Museum of the American Indian Act (NMAI) 1989 *S.978– National Museum of the American Indian Act*. Retrieved 21 November 2020 from < https://www.congress.gov/bill/101st-congress/senate-bill/978 >.

Natural History Museum 2019 *Natural History Museum Human Remains Policy*. London: Natural History Museum.

Ormond-Parker, L., N. Carter, C. Fforde, G. Knapman and W. Morris 2020 Repatriation in the Kimberley: Practice, approach, and contextual history. In C. Fforde, H. Keeler and C.T. McKeown (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.165–187. New York: Routledge.

Ousley, S. and A. McKeown 2001 Three-dimensional digitising of human skulls as an archival procedure. In E. Williams (ed.) *Human Remains: Conservation, Retrieval and Analysis – Proceedings of a Conference Held in Williamsburg, VA, November 7-11th 1999*, pp.173– 186. Oxford: Archaeopress.

Owen, T.D. 2004 'Of More than Usual Interest': A Bioarchaeological Analysis of Ancient Aboriginal Skeletal Material from South-Eastern South Australia. Unpublished Ph.D. thesis, Department of Archaeology, Flinders University, Adelaide, South Australia.

——— and F.D. Pate 2014 A Kaurna burial, Salisbury, South Australia: Further evidence for complex late Holocene Aboriginal social systems in the Adelaide region. *Australian Archaeology* 79(1):45–53.

——— and M. Casey 2017 The Old Sydney Burial Ground: Using isotopic analysis to infer the origin of individual skeletons. *Australasian Historical Archaeology* 35:24–33.

———, M. Casey and N. Pitt 2017 The Old Sydney Burial Ground: An inference of early colonial diet in Sydney and Britain. *Australasian Historical Archaeology* 35:34–42.

Pardoe, C. 2013 Repatriation, reburial and biological research in Australia: Rhetoric and practice. In S. Tarlow and L. Nilsson Struz (eds), *The Oxford Handbook of the Archaeology of Death and Burial*, pp.733–761. Oxford: Oxford University Press.

Parker Pearson, M. 2009 *The Archaeology of Death and Burial*. Gloucestershire: The History Press.

Pate, F.D. 1995 Stable carbon isotope assessment of hunter-gatherer mobility in prehistoric South Australia. *Journal of Archaeological Science* 22:81–87.

——— 1998 Bone collagen stable nitrogen and carbon isotopes as indicators of prehistoric diet and landscape use in south-eastern South Australia. *Australian Archaeology* 46:23–29.

——— 1998b Stable carbon and nitrogen isotope evidence for prehistoric hunter-gatherer diet in the lower Murray basin, South Australia. *Archaeology in Oceania* 33:92–99.

——— 2000 Bone chemistry and paleodiet: Bioarchaeological research at Roonka Flat, lower Murray River, South Australia 1983–1999. *Australian Archaeology* 50:67–74.

——— 2001 Obituary: Graeme L. Pretty (1940–2000). *Australian Aboriginal Studies* 2001(2):82–83.

——— 2006 Hunter-gatherer social complexity at Roonka, South Australia. In B. David, B. Barker and I.J. McNiven (eds), *Social Archaeology of Australian Indigenous Societies*, pp. 226–241. Canberra: Aboriginal Studies Press.

——— 2008 Geographic origin and mobility recorded in the chemical composition of human tissues. In M. Oxenham (ed.) *Forensic Approaches to Death, Disaster and Abuse*, pp.177–188. Bowen Hills, Queensland: Australian Academic Press.

——— 2008b The use of human skeletal remains in landscape archaeology. In B. David and J. Thomas (eds), *Handbook of Landscape Archaeology*, pp.502–520. Walnut Creek, California: Left Coast Press.

——— 2017 Diet, mobility and subsistence-settlement systems in the late Holocene Lower Murray River Basin of South Australia: Testing models of Aboriginal seasonal mobility and sedentism with isotopic and archaeological data. *Journal of the Anthropological Society of South Australia* 41:123–171.

——— and A.L. Crawford 2001 Obituary: Graeme Lloyd Pretty (1940–2000). *Australian Archaeology* 52: 60–63.

——— and T.D. Owen 2013 Stable carbon and nitrogen isotopes as indicators of sedentism and territoriality in late Holocene South Australia. *Archaeology in Oceania* 49(2):86–94.

——— and M.J. Schoeninger 1993 Stable carbon isotope ratios in bone collagen as indicators of marine and terrestrial dietary composition in south-eastern South Australia: A preliminary report. In B.L. Fankhauser and J.R. Bird (eds), *Archaeometry: Current Australasian Research, Occasional Papers in Prehistory* 22, pp.38–44. Canberra: Department of Prehistory, Research School of Pacific Studies, Australian National University.

———, G.L. Pretty, R. Hunter, C. Tuniz and E.M. Lawson 1998 New radiocarbon dates for the Roonka Flat Aboriginal burial ground, South Australia. *Australian Archaeology* 46:36–37.

———, T.J. Anson, M.J. Schoeninger and A.H. Noble 1998b Bone collagen stable carbon and nitrogen isotope variability in modern South Australian mammals: A baseline for palaeoecological inferences. *Quaternary Australasia* 16:43–51.

———, T.D. Owen and E. Lawson 2003 AMS radiocarbon dating of bone collagen: Estimating a chronology for the Swanport Aboriginal burial ground, South Australia. *Australian Archaeology* 56:8–11.

———, R. Brodie and T.D. Owen 2002 Determination of geographical origin of unprovenanced Aboriginal skeletal remains in South Australia employing stable carbon and isotopic analysis. *Australian Archaeology* 55:1–7.

———, A.L. Roberts, K. Walshe and T.D. Owen 2011 Stable isotopic analysis of Indigenous skeletal remains from Blanchetown Bridge, South Australia. *Journal of the Anthropological Society of South Australia* 34:90–99.

———, M. Henneberg, T.J. Anson, T.D. Owen, J. Newchurch, N. Draper, C. Wright, T. Lucus, I. Moffat, L.S. Weyrich, E. Shelly, J. Naumann, A. Gurr, C. Logan and J. Walsh 2020 A stable, inexpensive and widely available burial environment or keeping place for archaeological or historical human skeletal remains. *Australasian Historical Archaeology* 38:68–71.

Payne, S. 2011 Reburial and repatriation: Whose bones are they? *English Heritage Conservation Bulletin* 66:9–11.

Phillips, N. 2019 Bringing home the ancestors. *Nature* 568:244–297.

Pickering, M. 2006 Policy and research issues affecting human remains in Australian museum collections. In J. Lohman and K. Goodnow (eds), *Human Remains and Museum Practice*, pp.42–47. Paris: UNESCO.

——— 2007 Where to from here? Repatriation of Indigenous human remains and ‘The Museum.’ In S.J. Knell, S. MacLeod and S. Watson (eds), *Museum Revolutions: How Museums Change and Are Changed*, pp.250–259. London: Routledge.

——— 2010 Despatches from the front line? Museum experiences in applied repatriation. In P. Turnbull and M. Pickering (eds), *The Long Way Home: The Meanings and Values of Repatriation*, pp.163–174. New York: Berghahn Books.

——— 2010b Where are the stories? *The Public Historian* 32(1):79–95.

——— 2015 Rewards and frustrations: Repatriation of Aboriginal and Torres Strait Islander Ancestral Remains by the National Museum of Australia. In C. McCarthy (ed.) *Museum Practice*, pp.455–478. West Sussex: John Wiley and Sons Ltd.

——— 2020 *A Repatriation Handbook: A Guide to Repatriating Australian Aboriginal and Torres Strait Islander Ancestral Remains.* Canberra: National Museum of Australia.

——— 2020b 'And the walls came tumbling down.' In C. Fforde, H. Keeler and C.T. McKeown (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.918–926. New York: Routledge.

——— 2020c The supernatural and sensitive Indigenous material: A Workplace Health and Safety issue? *Museum Management and Curatorship*:1–19.

——— and P. Gordon 2011 Repatriation: The end of the beginning. In D. Griffin and L. Paroissien (eds), *Understanding Museums: Australian Museums and Museology*, pp.1–8. Canberra: National Museum of Australia.

Pirrie, D., L. Dawson and G. Graham 2017 Predictive geolocation: Forensic soil analysis for provenance determination. *Episodes* 40(2):141–147.

———, G.K. Rollinson, J.C. Andersen, D. Wootton and S. Moorhead 2013 Soil forensics as a tool to test reported artefact find sites. *Journal of Archaeological Science* 41(2014):461–473.

Prescott, J.R., H.A. Polach, G.L. Pretty and B.W. Smith 1983 Comparison of ^{14}C and thermoluminescent dates from Roonka, South Australia. *Council of Europe Journal, PACT* 8:205–211.

Pretty, G.L. 1977 The cultural chronology of the Roonka Flat. In R.V.S. Wright (ed.) *Stone Tools as Cultural Markers: Change, Evolution and Complexity*, pp.288–331. Canberra: Australian Institute of Aboriginal Studies.

——— 1986 Australian history at Roonka. *Journal of the Historical Society of South Australia* 14:107–122.

——— 1988 Radiometric chronology and significance of the fossil hominid sequence from Roonka, South Australia. In J.R. Prescott (ed.) *Early Man in the Southern Hemisphere. Supplement to Archaeometry: Australasian Studies 1988*, pp.S32–S52. Adelaide: University of Adelaide.

——— and M.E. Kricun 1989 Prehistoric health status of the Roonka population. *World Archaeology* 21:198–224.

———, M. Henneberg, K.M. Lambert and M. Prokopec 1998 Trends in stature in the South Australian Aboriginal Murraylands. *American Journal of Physical Anthropology* 106:505–514.

Prokopec, M. 1979 Demographical and morphological aspects of the Roonka population. *Archaeology and Physical Anthropology in Oceania* 14:11–26.

——— and G.L. Pretty 1991 Observations on health, genetics and culture from analysis of skeletal remains from Roonka, South Australia. In D.J. Ortner and A.C. Aufderheide (eds), *Human Paleopathology: Current Synthesis and Future Options*, pp.151–158. Washington, D.C.: Smithsonian Institution Press.

Redfern, R. and M. Clegg 2017 Archaeologically derived human remains in England: Legacy and future. *World Archaeology* 49(5):574–587.

Return, Reconcile, Renew (RRR) 2020 *RRR Toolkit Document 2: Brief Guide to Provenancing Ancestral Remains*. RRR Digital Archive: Return Reconcile Renew Project.

Richardson, L. 1994 The acquisition, storage and handling of Aboriginal skeletal remains in museums: An Indigenous perspective. In R. Layton (ed.) *Conflict in the Archaeology of Living Traditions*, pp.189–192. Florence: Taylor and Francis Group.

Riding, J.I. 1996 Repatriation: A Pawnee's perspective. *American Indian Quarterly* 20(2):238–250.

Rippon, L., M. Rollog, D. Bruce, J. Farkas, F.D. Pate, T.D. Owen, T. Lucas, S. McCallum and I. Moffat 2020 Baseline bioavailable strontium and oxygen isotope mapping of the Adelaide region, South Australia. *Journal of Archaeological Science: Reports* 34:1–18.

Roberts, C.A. 2018 *Human Remains in Archaeology: A Handbook– Practical Handbooks in Archaeology No. 19*. York: Council for British Archaeology.

——— 2019 Ethical and practical challenges of working with archaeological human remains, with a focus on the UK. In K. Squires, D. Errickson and N. Marquez-Grant (eds), *Ethical Approaches to Human Remains*, pp. 133–155. Cham, Switzerland: Springer.

——— and K. Manchester 2010 *The Archaeology of Disease.* Gloucestershire: The History Press.

Robertson, S. 2007 Sources of bias in the Murray Black collection: Implications for paleopathological analysis. *Australian Aboriginal Studies* 1:116–130.

Roginski, A. 2020 Two eagles and Jim Crow: Reburial and history-making in the Hunter Valley, New South Wales. In C. Fforde, H. Keeler and C.T. McKeown (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.719–741. New York: Routledge.

Royal BC Museum 2018 *Indigenous Collections and Repatriation Policy*. Victoria BC: Royal BC Museum.

RPS Group 2021 Fitzroy Crossing Cemetery. Retrieved 18 September 2021 from < https://www.rpsgroup.com/projects/fitzroy-crossing-cemetery/ >.

San Diego Museum 2017 *Policy on the Curation of Human Remains at the San Diego Museum of Man– FAQ*. San Diego: San Diego Museum.

Sayer, D. 2010 *Ethics and Burial Archaeology*. London: Gerald Duckworth and Co. Ltd.

SBS 2022 Second Group of Kaurna Ancestral Remains Return to Country. Retrieved 28 June, 2022 from < https://www.sbs.com.au/nitv/article/2022/06/28/second-group-kaurna-ancestral-remains-return-country >.

Schaeppe, D. and S. Rowley 2020 The journey home: Sto:lo values and collaboration in repatriation. In C.H. Meloche, L. Spake and K.L. Nichols (eds), *Working with and for ancestors: Collaboration in the care and study of ancestral remains*, pp.139–150. New York: Routledge.

Schrader, S. 2019 *Activity, Diet and Social Practice: Addressing Everyday Life in Human Skeletal Remains.* Cham, Switzerland: Springer.

Smith, C. and H.M. Wobst 2005 Decolonizing archaeological theory and practice. In C. Smith and H.M. Wobst (eds), *Indigenous Archaeologies: Decolonising Theory and Practice*, pp.4–14. Florence: Taylor and Frances Group.

——— 2005b The next step: An archaeology for social justice. In C. Smith and H.M. Wobst (eds), *Indigenous Archaeologies: Decolonising Theory and Practice*, pp.369–371. Florence: Taylor and Frances Group.

Smith, L. 2004 The repatriation of human remains– problem or opportunity? *Antiquity* 78 (300):404–415.

Smith, P., T. Brown and W.B. Wood 1981 Tooth size and morphology in a recent Australian Aboriginal population from Broadbeach, south east Queensland. *American Journal of Physical Anthropology* 55:423–432.

Smith, S.E. and C.S. Hirst 2019 3D data in human remains disciplines: The ethical challenges. In K. Squires, D. Errickson and N. Marquez-Grant (eds), *Ethical Approaches to Human Remains*, pp.315–346. Cham, Switzerland: Springer.

Smithsonian Institution 2012 *Guidelines and Procedures for Repatriation: National Museum of Natural History, Smithsonian Institution*. Washington D.C.: Smithsonian Institution.

——— 2020 *Smithsonian National Museum of the American Indian Repatriation Policy*. Washington D.C.: Smithsonian Institution.

South Australian Museum (SAM) 2018 *Management and Repatriation of Ancestral Remains and Burial Goods Policy*. Adelaide: South Australian Museum.

——— 2021 Repatriation of Ancestral Remains. Retrieved 5 April 2021 from < www. samuseum.sa.gov.au/the-museum/about/aboriginal-heritage-and-repatriation >.

——— 2022 Wangayarta. Retrieved 20 March 2022 from < https://www.samuseum.sa. gov.au/wangayarta >.

Spake, L., G. Nicholas and H.F.V. Cardoso 2020 The digital lives of ancestors: Ethical and intellectual property considerations surrounding the 3D recording of human remains. In C.H. Meloche, L. Spake and K.L. Nichols (eds), *Working with and for Ancestors: Collaboration in the Care and Study of Ancestral Remains*, pp.205–218. New York: Routledge.

Squires, K., T. Booth and C.A. Roberts 2019 The ethics of sampling human skeletal remains for destructive analyses. In K. Squires, D. Errickson and N. Marquez-Grant (eds), *Ethical Approaches to Human Remains*, pp. 265–298. Cham, Switzerland: Springer.

Stirling, E.C. 1911 Preliminary report on the discovery of native remains at Swanport, River Murray, with an inquiry into the alleged occurrence of a pandemic among the Australian Aboriginals. *Transactions of the Royal Society of South Australia* 35:4–46.

Stone, P.K. 2018 Introduction. In P.K. Stone (ed.), *Bioarchaeological Analyses and Bodies: Bioarchaeology and Social Theory*, pp.4–8. Cham, Switzerland: Springer.

Storer, D. 2018 Remains of more than 60 Aboriginal people reburied after Kimberly floods. Retrieved 20 August 2021 from < https://www.theguardian.com/australia-news/2018/aug/20/remains-of-more-than-60-aboriginal-people-reburied-after-kimberley-floods >.

Supenant, K. 2021 Decolonising bioarchaeology. In C.H. Meloche, L. Spake and K.L. Nichols (eds), *Working With and For Ancestors: Collaboration in the Care and Study of Ancestral Remains*, pp. 268–280. New York: Routledge.

Swain, H. 2007 The value of human remains in museum collections: An international symposium held at the Museum in Docklands, London, March 2007. *Public Archaeology* 6(3):193–197.

——— 2016 Museum practice and the display of human remains. In H. Williams and M. Giles (eds), *Archaeologists and the Dead: Mortuary Archaeology in Contemporary Society*, pp.169–183. Oxford: Oxford University Press.

Tapsell, P. 2016 Museums as cemeteries: Do the living really matter? in L. Field, J. Watkins and C. Gnecco (eds), *Challenging the Dichotomy: The Licit and the Illicit in Archaeological and Heritage Discourses*, pp.197–218. Arizona: University of Arizona Press.

——— 2020 When the living forget the dead: The cross-cultural complexity of implementing the return of museum-held ancestral remains. In C. Fforde, H. Keeler and C.T. McKeown (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.259–276. New York: Routledge.

Tarle, L., G. Nicholas and H.F.V. Caroloso 2020 What next? Changing ethical protocols for human remains in museums. In C.H. Meloche, L. Spake and K.L. Nichols (eds), *Working with and for Ancestors: Collaboration in the Care and Study of Ancestral Remains*, pp.219–232. New York: Routledge.

Tayles, N. and S. Halcrow 2011 New Zealand/Aotearoa. In N. Marquez-Grant and L. Fibiger (eds), *The Routledge Handbook of Archaeological Human Remains and Legislation: An International Guide to Law and Practice in the Excavation and Treatment of Archaeological Human Remains*, pp.647–655. Florence: Taylor and Francis Group.

Trigger, B.G. 2014 *A History of Archaeological Thought, 2nd edition.* Cambridge: Cambridge University Press.

Turnbull, P. 2004 Indigenous Australian people, their defence of the dead and native title. In C. Fforde, J. Hubert and P. Turnbull (eds), *The Dead and their Possessions: Repatriation in Principle, Policy and Practice*, pp.47–86. London: Routledge.

——— 2010 Introduction. In P. Turnbull and M. Pickering (eds), *The Long Way Home: The Meanings and Values of Repatriation*, pp.1–9. New York: Berghahn Books.

——— 2010b The Vermillion Accord and the significance of the history of the scientific procurement and use of Indigenous Australian bodily remains. In P. Turnbull and M. Pickering (eds), *The Long Way Home: The Meanings and Values of Repatriation*, pp.117–134. New York: Berghahn Books.

——— 2012 A judicious collector: Edward Charles Stirling and the procurement of Aboriginal bodily remains in South Australia, c.1880-1912. In S. Wilde (ed.) *The Body Divided: Human Beings and Human 'Material' in Modern Medical History*, pp.109–130. London: Taylor and Francis Group.

——— 2017 *Science, Museums and Collecting the Indigenous Dead in Colonial Australia*. Cham, Switzerland: Palgrave Macmillan.

——— 2020 The ethics of repatriation: Reflections on the Australian experience. In C. Fforde, H. Keeler and C.T. McKeown (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.927–939. New York: Routledge.

——— 2020b International repatriations of Indigenous human remains and its complexities: the Australian experience. *Museum and Society* 18(1):6–19.

——— 2020c Collecting and colonial violence. In C. Fforde, H. Keeler and C.T. McKeown (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.452–468. New York: Routledge.

Ubelaker, D.H. 2011 The United States. In N. Marquez-Grant and L. Fibiger (eds), *The Routledge Handbook of Archaeological Human Remains and Legislation: An International Guide to Law and Practice in the Excavation and Treatment of Archaeological Human Remains*, pp.533–540. Florence: Taylor and Francis Group.

——— and H. Khosrowshahi 2019 Ethical perspectives in forensic anthropology and museum curation in the United States of America. In K. Squires, D. Errickson and N. Marquez-Grant (eds), *Ethical Approaches to Human Remains*, pp.387–400. Cham, Switzerland: Springer.

United Nations 2007 United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Retrieved 26 September 2020 from < https://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf >.

University of Adelaide 2021 Repatriation of Aboriginal Ancestral Remains. Retrieved 18 April 2022 from < https://www.adelaide.edu.au/about/university-profile/repatriation-of-aboriginal-ancestral-remains#what-has-happened-since-the-aboriginal-ancestral-remains-were-relocated-in-2017 >.

Walker, D. 2012 *Disease in London, 1st–19th centuries: An Illustrated Guide to Diagnosis*. MOLA Monograph 56. London: Museum of London Archaeology.

Walker, P.L. 2008 Bioarchaeological ethics: A historical perspective on the value of human remains. In M.A. Katzenberg and S.R. Saunders (eds), *Biological Anthropology of the Human Skeleton, Second Edition*, pp.3–40. Hoboken, New Jersey: John Wiley and Sons, Inc.

Warren, K., D. Sammeth, S. Mahen and J. Nevins 2013 A non-destructive method for dating human remains. *Advances in Archaeological Practice: A Journal of the Society for American Archaeology* November: 91–103.

Watkins, J. 2003 Archaeological ethics and American Indians. In L.J. Zimmerman, K.D. Vitelli and J. Hollowell-Zimmer (eds), *Ethical Issues in Archaeology*, pp.129–141. California: Altamira Press.

Watson, N. 2003 The repatriation of Indigenous remains in the United States of America and Australia: A comparative analysis. *Australian Indigenous Law Reporter* 8(1):33–44.

Weiss, E. 2008 *Reburying the Past: The Efforts of Repatriation and Reburial on Scientific Inquiry*. New York: Nova Science Publishers, Inc.

——— 2009 *Biological Science: What We Have Learned from Human Skeletal Remains*. New York: Nova Science Publishers.

——— and J.W. Springer 2020 *Repatriation and Erasing the Past*. Gainesville, Florida: University of Florida Press.

Weisse, A.J. 2021 Provenancing Australian Aboriginal ancestors. In C.H. Meloche, L. Spake and K.L. Nichols (eds), *Working with and for ancestors: Collaboration in the care and study of ancestral remains*, pp.233–240. New York: Routledge.

——— 2021b From Specimen to Person: Determining Provenance and Identity for Aboriginal Human Remains Held in Museums. Unpublished Ph.D. thesis, School of Social Science, University of Queensland, St Lucia, Queensland.

Westaway, M. and A. Burns 2001 Investigation, documentation and repatriation of Aboriginal skeletal remains: Case study from the Goolum Goolum Aboriginal Co-operative community boundary, Victoria, Australia. In E. Williams (ed.) *Human Remains: Conservation, Retrieval and Analysis – Proceedings of a Conference Held in Williamsburg, VA, November 7-11th 1999*, pp.1– 4. Oxford: Archaeopress.

———, W. Muller, H. Harradine and J. Chatfield 2004 Resolving complex provenance issues through isotopic analysis of human bones and the potential benefits to Aboriginal communities. *The Artefact* 27:91–96.

White, B. 2011 The United Kingdom. In N. Marquez-Grant and L. Fibiger (eds), *The Routledge Handbook of Archaeological Human Remains and Legislation: An International Guide to Law and Practice in the Excavation and Treatment of Archaeological Human Remains*, pp.479–491. Florence: Taylor and Francis Group.

White, T.D., M.T. Black and P.A. Folkens 2012 *Human Osteology, Third Edition.* Burlington, Massachusetts: Academic Press.

Wilson, C. 2007 Indigenous research and archaeology: Transformative practices in/with/for the Ngarrindjeri community. *Archaeologies* 3(3):320–334.

——— 2009 Implications and challenges of repatriating and reburying Ngarrindjeri Old People from the 'Edinburgh Collection'. *Museum International* 61(1–2):37–40.

Wisely, S.M., J.E. Maldonado and R.C. Fletcher 2004 A technique for sampling ancient DNA that minimises damage to museum specimens. *Conservation Genetics* 5:105–107.

World Archaeological Congress (WAC) 1989 *The Vermillion Accord on Human Remains*: World Archaeological Congress.

Wright, J.L., S. Wasef, T.H. Heupink, M.C. Westaway, S. Rasmussen, C. Pardoe, G.G. Fourmile, M. Young, T. Johnson, J. Slade, R. Kennedy, P. Winch, M. Pappin Sr, T. Waks, W. Bates, S. Hamilton, N. Whyman, S. van Hoist Pellekaan, P.J. McAllister, P.S.C. Tacon, D. Curnoe, R. Li, C. Millar, S. Subramanian, E. Willerslev, A. Malaspinas, M. Sikova and D.M. Lambert 2018 Ancient nuclear genomics enable repatriation of Indigenous human remains. *Science Advances* 4:1–12.

Zimmerman, L.J. 2005 First, be humble: Working with Indigenous peoples and other descendant communities. In C. Smith and H.M. Wobst (eds), *Indigenous Archaeologies: Decolonising Theory and Practice*, pp.284–296. Florence: Taylor and Frances Group.

Appendices

Appendix 1

Global legislation and guidelines regarding repatriation

Legislation/ Guidelines/Policy	Jurisdiction	Relevance to the Repatriation of Indigenous Ancestral Remains
The Vermillion Accord on Human Remains **(1989)** – policy	International	• 2: 'Respect for the wishes of the dead concerning disposition shall be accorded whenever possible… when they are known or can be reasonably inferred' (WAC 1989). • 3: 'Respect for the wishes of the local community and of relatives or guardians of the dead shall be accorded' (WAC 1989). • 4: 'Respect for the scientific research value of skeletal, mummified and other human remains… shall be accorded when such value is demonstrated to exist' (WAC 1989). • 5: 'Agreement on the disposition of fossil, skeletal, mummified and other remains shall be reached by negotiation on the basis of mutual respect for the legitimate concerns of communities for the proper disposition of their ancestors, as well as the legitimate concerns of science and education' (WAC 1989). • 6: 'The express recognition that the concerns of various ethnic groups, as

		well as those of science are legitimate and to be respected, will permit acceptable agreements to be reached and honoured' (WAC 1989). • The Accord was developed by those in the professional sector and called for respect for human remains irrespective of race, origin, religion, custom or tradition; for the wishes of indigenous communities, negotiation regarding ancestral remains and likewise, respect for the scientific value of human remains as well (Fforde and Hubert 2006; Hubert and Fforde 2004; Pardoe 2013; Roberts 2018).
***United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP) (2007)** – policy	International	• Article 12.1: 'Indigenous peoples have… the right to the repatriation of their human remains' (United Nations 2007:12). • Article 12.2: 'States shall seek to enable the access and/or repatriation of… human remains in their possession through fair, transparent and effective mechanisms developed in conjunction with indigenous peoples concerned' (United Nations 2007:12).
***National Museum of the American Indian Act 1989* (NMAI)** – legislation	Smithsonian Institution, USA	• NMAI required the Smithsonian Institute to inventory, document and if requested, to repatriate culturally affiliated Indigenous remains to federally recognised Native American

		and Hawaiian communities (Buikstra 2006; Cubillo 2010; Fforde 2004b; Jenkins 2011; NMAI 1989; Ubelaker and Khosrowshahi 2019; Weiss 2008). • To establish a new national museum representing Native American cultures – the National Museum of the American Indian (Buikstra 2006; Cubillo 2010; Fforde 2004b; Jenkins 2011; NMAI 1989; Ubelaker and Khosrowshahi 2019; Weiss 2008).
Native American Graves Protection and Repatriation Act 1990 **(NAGPRA)** – legislation	USA	• Section 3003: Inventory for human remains and associated funerary objects– (a) 'each Federal agency and each museum which has possession or control over holdings or collections of Native American human remains… shall compile an inventory of such items and, to the extent possible based on information possessed by such museum or Federal agency, identify the geographical and cultural affiliation of such item' (NAGPRA 1990). • Section 3005.a.1: 'If… the cultural affiliation of Native American human remains and associated funerary objects with a particular Indian tribe or Native Hawaiian organization is established, then the Federal agency or museum, upon the request of a known lineal descendant

		of the Native American or of the tribe or organization… shall expeditiously return such remains and associated funerary objects' (NAGPRA 1990). • Section 3005.a.4: 'Where cultural affiliation of Native American human remains and funerary objects has not been established… [they] shall be expeditiously returned where the requesting Indian tribe or Native Hawaiian organization can show cultural affiliation by a preponderance of the evidence based upon geographical, kinship, biological, archaeological, anthropological, linguistic, folkloric, oral traditional, historical, or other relevant information or expert opinion' (NAGPRA 1990). • NAGPRA required all federally funded institutions, including museums, to complete an inventory of their collections to determine the cultural affiliation of these ancestral remains, for the purposes of repatriation when requested by Indigenous communities (Fforde 2004b; Jenkins 2011; 2016; McManamon 2006; NAGPRA 1990; Ubelaker 2011). • NAGPRA encouraged dialogue between institutions holding

		collections of ancestral remains and Native American communities, the legislation set standards and procedures for repatriation, gave control over ancestral remains back to Indigenous communities and provided communities with means of gathering more information about their pasts (Cubillo 2010; Ubelaker and Khosrowshahi 2019; Watkins 2003).
Human Tissue Act 2004 – legislation	England, Wales and Northern Ireland	• Section 47: Gave power to deaccession human remains from 9 major museums, including; The Board of Trustees of the Armouries, The Imperial War Museum, The British Museum, The Museum of London, The National Maritime Museum, The National Museums and Galleries on Merseyside, The Natural History Museum, The Victoria and Albert Museum and the Science Museum (Human Tissue Act 2004). • Section 47: Gave the museums the power to 'transfer from their collection any human remains which they reasonably believe to be remains of a person who died less than one thousand years ago' (Human Tissue Act 2004). • The Act removed the non-disposal clause from the *British Museum Act 1963* and allowed for the larger

		museums to legally repatriate ancestral remains, which they had previously claimed to stop repatriations in the past (DCMS 2003; 2005; Fforde and Hubert 2006; Gilmore et al. 2019; Human Tissue Act 2004; Jenkins 2011; Natural History Museum 2019).
Department of Culture, Media and Sport (DCMS) ***Guidance for the Care of Human Remains in Museums*** **(2005)** – guidelines	England, Wales and Northern Ireland	• Non-statutory guidelines of recommended best practice (DCMS 2005). • 3.1: 'There is also no question that some human remains in museum collections were acquired in ways that would be deemed unacceptable. In many of these cases, individuals and communities have been left deeply distressed and wish to see the return of such remains or to gain some control over their future' (DCMS 2005:23). • 3.1: Repatriation requests 'will involve the consideration of possession, the cultural and religious values of the interested individuals or communities and the strength of their relationship to the remains in question; cultural, spiritual and religious significance of the remains; the scientific, educational and historical importance of the material; the quality of treatment of the remains both now and in the past in

		their current location and their care if returned' (DCMS 2005:23). • 3.1 'Ultimate responsibility for the decisions as to whether material should be returned or released will lie with the appropriate authorities within each museum' (DCMS 2005:23). • DCMS 2005 required UK institutions to inventory all of the human remains in their collections (DCMS 2005; Swain 2007; White 2011). • It provided guidance to UK museums on 'how to approach issues surrounding the holding of human remains' (DCMS 2005:5), including an ethical framework, advice on museum governance and best practice policies regarding the acquisition, display, care, scientific research, consent and procedures for repatriation claims (Bell 2010; DCMS 2005; Fforde et al. 2004; Giles and Williams 2016; Jenkins 2011; Morton 2020; Swain 2016). • Implemented Section 47 of the *Human Tissue Act 2004* legislation (DCMS 2005).
Guidelines for the Care of Human Remains in Scottish Museum Collections **(2011)** – guidelines	Scotland	• 'Principles involved in managing human remains, making decisions concerning their care, or in dealing with claims for repatriation'

		(Museums Galleries Scotland 2011:8). • It promoted best museum practice, provided guidance for the management of their collections, procedures for handling repatriation claims and assisted with the development of museum principles and practices regarding human remains (Museums Galleries Scotland 2011).
***Australian Government Policy on Indigenous Repatriation* (2016)** – policy	Australia	• 'The Australian Government support for Indigenous culture underpins Australia's accession to international agreements such as… UNDRIP Article 12' (Australian Government 2016:4). • 'Repatriation is also a vehicle for healing and justice in Australian society' (Australian Government 2016:4). • 'Repatriation helps promote broader respect and understanding of Indigenous cultures' (Australian Government 2016:4). • 'Internationally, the Australian Government seeks, on behalf of Aboriginal and Torres Strait Islander communities, the voluntary and unconditional return of their ancestral remains and associated notes and data' (Australian Government 2016:5).

		• 'The communities of origin are the rightful custodians of their ancestral remains, and should be consulted prior to any return. They should determine when and how repatriation should be undertaken' (Australian Government 2016:5). • The policy outlines the Governments official endorsement of repatriation of ancestral remains (Australian Government 2016; Pickering 2020). • The policy positively supports the repatriation of Indigenous ancestral remains and recognises Indigenous control over their ancestral remains, highlights the positive role that repatriation has for Indigenous peoples and communities, promotes broader respect and understanding for Indigenous culture, recognises Indigenous rights to dignity and self-determination and emphasises the need for engagement in decision-making and collaboration between community and institutions to facilitate repatriation (Australian Government 2016; Pickering 2020).
Previous Possessions, New Obligations **(1993)** – guidelines	Australia	• Introduced by Museums Australia, now Australian Museums and Galleries Association, as non-statuary guidelines in support of repatriation (Cubillo 2010; Pickering 2007; 2020).

		• 6: ‘Aboriginal and Torres Strait Islander people must be involved in decisions affecting how museums store, research, use or display Australia’s indigenous collections and information and how such collections and information are presented’ (Museums Australia 2000:1). • 1.1: ‘Museums cannot place conditions on communities on the return of human remains’ (Museums Australia 2000:2). • 1.2: ‘Museums will not seek to acquire human remains’ (Museums Australia 2000:2). • 1.3: ‘The remains of indigenous people… in Australia will be dealt with according to the wishes of the deceased or their relatives or their community Elders’ (Museums Australia 2000:2). • 1.4: ‘The community from which the human remains came must be involved in deciding what will happen to remains returned by museums’ (Museums Australia 2000:2). • 1.5: ‘All requests for the return of Aboriginal and Torres Strait Islander remains will be promptly and sensitively dealt with by museums’ (Museums Australia 2000:2).

		• 1.7: ‘If it is agreed that a museum may retain human remains then they must be properly stored in an area separate from other parts of the collection and treated with respect at all times’ (Museums Australia 2000:2). • 1.10: ‘Museums recognise the potential value that human remains may have in understanding peoples’ health and way of life in the past. However, before a museum can keep any human remains based on their research value the museum must first prove its claim to the satisfaction of the relevant Aboriginal and Torres Strait Islander people’ (Museums Australia 2000:2). • This set museum wide standards, principles and policies for the Australian museological industry (Museums Australia 2005:6), focusing on the responsibilities and roles of museums including, helping to encourage cooperation and communication between museums and Indigenous communities, addressing past practices and removing ancestral remains from display, informing communities if they had ancestral remains in their collections and to follow the wishes of Indigenous communities in

		regards to what they wanted to do with these ancestral remains (Museums Australia 2000; 2005; Pickering 2006; 2020; Turnbull 2017; Watson 2003). • The policy concentrated on respectful treatment of Indigenous peoples and their cultural heritage in museum collections, such as better-informed representation of Indigenous displays and through returning of control over access to collections held in Australian museums (Museums Australia 2000; 2005; Pickering 2020). • Australian State and National museums adopted the policy across the country (Watson 2003). • Australian museums acknowledged by their adoption of these guidelines, that they became custodians, rather than owners of ancestral remains in their collections (Fforde 2004b).
Continuous Cultures, Changing Responsibilities **(2005)** – guidelines	Australia	• Updated and replaced the existing policy *Previous Possessions, New Obligations* and was another integral document for policy development in Australian museums (Janke and Company 2018; Pickering 2007; 2010; Smith 2004). • 15: 'Aboriginal and Torres Strait Islander people retain full rights to their cultural heritage both in respect

		to Australian intellectual property laws as well as relevant customary laws' (Museums Australia 2005:14). • 16: 'Reconciliation for Australians is a fundamental principle underlying the activities of museums in the development of their relationships with Indigenous Australians and… [their] cultural heritage' (Museums Australia 2005:14). • 1.1: 'Museums must take into account the views of those communities, in matters relating to the display, collection, care, return or removal of cultural materials and who may access them' (Museums Australia 2005:15). • 1.4.2: 'In instances, where these [the relevant Indigenous community] cannot be identified, the ancestral remains should be cared for in accordance with the relevant guidelines' (Museums Australia 2005:18). • 1.4.4: 'Museums able to seek out the rightful custodians of ancestral remains and ask them whether they wish the remains to be repatriated to the community or held by the museum on behalf of the community' (Museums Australia 2005:18). • 1.4.11: 'Any research undertaken on ancestral remains must have the

		prior, free and informed consent of traditional custodians… and comply with recognised and appropriate ethical research guidelines' (Museums Australia 2005:19). • The policy incorporated new principles, such as Indigenous intellectual and cultural property rights, Indigenous custodianship, protocols for storage, display and care of ancestral remains, set procedures for consultation and unconditional repatriation and a policy surrounding consent for ethical research practices on ancestral remains in museums (Museums Australia 2005).
***First Peoples–Connecting Custodians* (2018)** – guidelines	Australia	• 3.2: 'Museums should ensure that their policies and processes align with the UNDRIP rights of Indigenous people' (Janke and Company 2018:6). • The policy changed to reflect the needs of Indigenous communities rather than being presented from a museum perspective and 'provide[d] a framework for Indigenous engagement in museums' (Janke and Company 2018:vi).
National Repatriation Policy for Kōiwi Tangata	New Zealand	• Implemented by the Museums of New Zealand Inc as the national repatriation policy (Museums of New Zealand 2021).

***and Associated Burial Taonga within Aotearoa* (2021)** – guidelines		• The policy offers 'guidance for museums in taking an ethical approach to the respectful management of *koiwi tangata* (human remains, modified or unmodified) within their care, with the presumption that repatriation to the source community should be the outcome wherever possible' (Museums of New Zealand 2021:1). • 1. 'That *koiwi tangata* will be treated with the same respect and consideration for human dignity regardless of where they are from, therefore the same ethics of care apply for all *koiwi tangata* held by museums throughout *Aotearoa* (New Zealand)' (Museums of New Zealand 2021). • 2. 'The holding of provenanced *koiwi tangata* against the will of source communities denies people of dignity and closure, and is therefore deemed unethical' (Museums of New Zealand 2021). • 2. 'Repatriation to *iwi* and/or *hapu* (people or community) and source communities should be undertaken within an open and constructive dialogue' (Museums of New Zealand 2021). • 3.2.a. 'Care of *koiwi tangata* is guided by a deep respect for human

		dignity, irrespective of origin, religion, nationality, custom or tradition' (Museums of New Zealand 2021). • 3.2.b. 'Museums will compile an inventory of all *koiwi tangata*, in their collection, including information about the date of collection and/or acquisition, provenance, physical description/s, the circumstances around the acquisition, and any *iwi, hapu* or source community affiliation, if known' (Museums of New Zealand 2021). • 3.4.b. '*Koiwi tangata* should be kept separate from the rest of the museum's collections' (Museums of New Zealand 2021). • 3.4.f. 'Access to *koiwi tangata* should be restricted to the discretion of the source community, *iwi* and/or *hapu*' (Museums of New Zealand 2021). • 4. 'Any research undertaken on *koiwi tangata* (outside of provenance research required for the purpose of repatriation) should be done ethically and with the consent of the source communities. This includes both destructive and non-destructive scientific research. Ethically, any research on *koiwi tangata* in

		Aotearoa needs to have cultural permissions from the source community' (Museums of New Zealand 2021). • 5. 'Any *koiwi tangata* remaining in museum collections should not be displayed, unless… where express permission has been given [by *iwi*]' (Museums of New Zealand 2021).

Appendix 2

International and global museum policies regarding ancestral remains and repatriation

Museum	Museum Policy	Relevance to the Repatriation of Indigenous Ancestral Remains	Illicit/Licit Ancestral Remains Perspective
International Policy	UNESCO's *ICOM Code of Ethics for Museums* (2004)	• 3.7: 'Research on human remains… must be accomplished in a manner consistent with professional standards and take into account the interests and beliefs of the community, ethnic or religious groups from when the objects originated, where these are known' (ICOM 2004:20). • 6.3: 'When a country or people of origin seeks the restitution of an object or specimen that can be demonstrated to have been exported or otherwise transferred in violation of the principles of international and national conventions, and is shown to be part of that country's or people's cultural or natural heritage, the museum concerned should, if legally free to do so, take	Illicit

Museum	Museum Policy	Relevance to the Repatriation of Indigenous Ancestral Remains	Illicit/Licit Ancestral Remains Perspective
		prompt and responsible steps to cooperate in its return' (ICOM 2004:33).	
Australian Museum, Sydney, Australia	*Australian Museums Repatriation Policy for Australian Aboriginal Secret/Sacred and Aboriginal Ancestral Remains Collections* (2007)	• 2: 'Adopted its policy of sympathetic considerations of repatriation requests… and has been implementing that policy since 1974' (Australian Museum 2007). • 2: 'Human remains were repatriated because their cultural and spiritual significance to the traditional Indigenous owners' (Australian Museum 2007). • 4: 'The collections may have immense scientific value but the wishes of Aboriginal people take precedence' (Australian Museum 2007). • 4. 'Collections are closed to researchers' (Australian Museum 2007). • 5.1: 'The collections are housed within specified areas separated from the rest of the Museums anthropological,	Illicit

Museum	Museum Policy	Relevance to the Repatriation of Indigenous Ancestral Remains	Illicit/Licit Ancestral Remains Perspective
		archaeological, biological and geological collections' (Australian Museum 2007). • 5.6: 'Procedures to validate the request and confirm community support for return of the material' (Australian Museum 2007).	
Te Papa Tongarewa (Te Papa Museum), Wellington, New Zealand	*Karanga Aotearoa Repatriation Programme* (2005)	• A formal domestic and international repatriation program funded by the New Zealand Government (Aranui 2020; Gilmore et al. 2019). • The program is 'dedicated to the return of Māori and Moriori ancestral remains from international institutions' (Aranui 2020:22). • 'The single goal of repatriation is not to hold the remains at Te Papa indefinitely but to return them to their communities' (Museum of New Zealand, Te Papa 2020).	Illicit

Museum	Museum Policy	Relevance to the Repatriation of Indigenous Ancestral Remains	Illicit/Licit Ancestral Remains Perspective
		• As part of domestic repatriation each *iwi* is given 'a research report containing provenance information… museological and collection history, archaeological records and maps' (Te Papa 2020). • Te Papa Museum has been deemed a sacred repository by Maori for their ancestral remains (Fforde and Hubert 2006; Te Papa 2020), with the repository being utilised as a temporary storage place for repatriated Maori ancestral remains returned from domestic museum collections and internationally, until provenance can be determined and repatriation to their *iwi* can be fulfilled (Fforde and Hubert 2006; Tayles and Halcrow 2011; Te Papa 2020).	

Museum	Museum Policy	Relevance to the Repatriation of Indigenous Ancestral Remains	Illicit/Licit Ancestral Remains Perspective
		• New Zealand museums must develop policies in partnership with their local Maori regarding their ancestral remains and their repatriation, based on their cultural practices and beliefs (Gilmore et al. 2019).	
Natural History Museum, London, England	*Natural History Museum Human Remains Policy* (2019)	• 2.c: repatriation requests only for 'human remains that are less than 1,000 years old may be considered' (Natural History Museum 2019:2). • The Museum states that it 'recognises that the significance of human remains differs between individuals and cultures and that there is a wide range of views as to the values which should inform the treatment of them. These different views lead to a range of perspectives on appropriate custody, care, location and use of remains and duties in	More illicit than licit

Museum	Museum Policy	Relevance to the Repatriation of Indigenous Ancestral Remains	Illicit/Licit Ancestral Remains Perspective
		respect of them' (Natural History Museum 2019:3.4). • 3.6.a: 'The Museum may consider requests for changes in custody or location of remains for individuals who died 1000 years ago or less and this may include the return of human remains to places, communities or countries of origin' (Natural History Museum 2019:4–5).	
British Museum, London, England	*British Museum Policy: Human Remains in the Collection* (2019)	• 4.1: 'The Trustees may transfer from the Collection human remains which they reasonably believe to be remains of a person who died less than one thousand years before' (British Museum 2019:2). • 5.1: 'The primary legal duty of the Trustees is to safeguard the Collection for the benefit of present and future generations throughout the world. Therefore, the Trustees' overarching	Licit

Museum	Museum Policy	Relevance to the Repatriation of Indigenous Ancestral Remains	Illicit/Licit Ancestral Remains Perspective
		presumptions is that the Collection should remain intact' (British Museum 2019:2). • 5.13: 'The Trustees consider that the public interest is strongly in favour of the retention in the Collection of human remains that have been modified for a purpose other than a mortuary practice… and will not accept requests for transfer in respect of them' (British Museum 2019:4). • 5.16: 'The Trustees will weigh the applicants' case made [for repatriation]… on the balance of probabilities. However, they shall presume that the balance will normally lie: 5.16.1 more strongly in favour of the retention of human remains in the Collection where a request is made to human remains over 300 years old [and] 5.16.2	

Museum	Museum Policy	Relevance to the Repatriation of Indigenous Ancestral Remains	Illicit/Licit Ancestral Remains Perspective
		very strongly in favour of the retention of human remains in the Collection where the human remains are over 500 years old' (British Museum 2019:5). • 5.47.2: if remains are more than 100 years old 'the significance of the cultural continuity and the cultural importance of the human remains demonstrated by the community making the request outweigh the public benefit to the world community of retaining the human remains in the Collection' (British Museum 2019:6), they will be repatriated.	
San Diego Museum of Man (now the San Diego Museum of Us), San Diego, USA	*Policy on the Curation of Human Remains at the San Diego Museum of Man* (2017)	• 'Ability to repatriate for all ancestral remains at the Museum, not just those Federally recognised under NAGPRA' (San Diego Museum 2017:3).	Illicit

Museum	Museum Policy	Relevance to the Repatriation of Indigenous Ancestral Remains	Illicit/Licit Ancestral Remains Perspective
		• 'It shifts us from the position of being required to treat the remains of human beings with appropriate respect, to doing so as a matter of principle' (San Diego Museum 2017:3). • 'Many museums [in the USA] recognise that collecting practices of past generations no longer meet standards for current ethical practice' (San Diego Museum 2017:4).	
The Smithsonian National Museum of the American Indian, Washington D.C., USA	*Smithsonian National Museum of the American Indian Repatriation Policy* (2020)	• II.1.c: 'If there is not a reasonable basis to establish such affiliation, the NMAI will consider repatriation to Indian Tribes or Native Hawaiian Organisations that can demonstrate a relationship to the ancestral, historic or aboriginal territories from where the human remains were collected' (Smithsonian Institution 2020:2).	Illicit

Museum	Museum Policy	Relevance to the Repatriation of Indigenous Ancestral Remains	Illicit/Licit Ancestral Remains Perspective
		• II.1.d: 'If no information is available through which cultural affiliation can be estimated, the Board of Trustees will decide upon a plan for carrying out a respectful disposition of culturally unknown human remains' (Smithsonian Institution 2020:2). • VI: Repatriation to 'indigenous communities outside of the United States [is] on a case-by-case basis' (Smithsonian Institution 2020:8). • Outlines the Museum's management for repatriation and claims processes and indigenous peoples' authority over access to information and the collection (Smithsonian Institute 2020:1, 7–8).	
American Museum of Natural	*Guidelines and Procedures for Repatriation:*	• Section X: 'Culturally unaffiliated human remains… will be retained by the	Illicit

Museum	Museum Policy	Relevance to the Repatriation of Indigenous Ancestral Remains	Illicit/Licit Ancestral Remains Perspective
History, New York, USA	*National Museum of Natural History* (2012)	museum until additional evidence is obtained that leads to their cultural affiliation' (Smithsonian Institution 2012).	
Royal BC Museum, Victoria BC, Canada	*Indigenous Collections and Repatriation Policy* (2018)	• 2d: 'The Museum does not allow or conduct research on ancestral remains and does not support invasive physical research. Consent by relevant indigenous community governing authority for non-invasive research may be sought to help identify the unknown ancestral remains' (Royal BC Museum 2018:4). • 3a: 'Repatriation of ancestral remains is a Museum priority: ancestral remains… will be repatriated upon request to the originating Indigenous community' (Royal BC Museum 2018:5). • 3a: 'It is not required that an indigenous community demonstrate an historical or family relationship to the	Illicit

Museum	Museum Policy	Relevance to the Repatriation of Indigenous Ancestral Remains	Illicit/Licit Ancestral Remains Perspective
		ancestral remains' (Royal BC Museum 2018:5). • 3a: 'The Museum will consider repatriation of unaffiliated ancestral remains to an indigenous community that can demonstrate a relationship to the ancestral, historical or indigenous territories from where the ancestral remains were collected' (Royal BC Museum 2018:5). • 3a: 'Recommend a respectful storage until such time as information is obtained that leads to their cultural affiliation' (Royal BC Museum 2018:5).	

Appendix 3

Types of literature, themes or information and references of resources utilised in the thesis

Type of Literature	Themes/Information	References
Journal Article	• Repatriation • Bioarchaeology • Museum collections of ancestral remains • Indigenous archaeology • Museum collections of ancestral remains • Historical collecting practices • Australian case studies • Indigenous perspectives on repatriation • International legislation and guidelines • Indigenous Keeping Places • Archaeology of human remains handbook	• Adams, C., F.D. Pate, T.D. Owen, D. Bruce, K. Nielson, R. Klaebe, M. Henneberg and I. Moffat 2022 'Do dead men tell no tales?' Geographic origin of a colonial period Anglican cemetery population in Adelaide, South Australia, determined by isotope analyses. *Australian Archaeology*, 88(2):144–158. • Adams, S., R. Grun, D. McGahan, J.X. Zhao, Y. Feng, A. Nguyen, M. Williams, M. Quaresimin, B. Lobsey, M. Collard and M.C. Westaway 2019 A strontium isoscape of north-east Australia for human provenance and repatriation. *Geoarchaeology* 34:231–251. • Adams, S., M. Collard, D. Williams, C. Flinders, S. Wasef and M.C. Westaway 2020 A community bioarchaeology project in the Flinders Group, Queensland, Australia. *Archaeologies* 16(3):436–459.

Type of Literature	Themes/Information	References
		• Adams, S., M.C. Westaway, D. McGahan, D. Williams, J. Zhao, Y. Feng, A. Nguyen, J. Pearce, C. Flinders and M. Collard 2021 Isotopic analyses of prehistoric human remains from the Flinders Group, Queensland, Australia, support an association between burial practices and status. *Archaeological and Anthropological Sciences* 13(121):1–17. • Aranui, A. 2020 Restitution or a loss to science? Understanding the importance of returning Maori ancestral remains. *Museum and Society* 18(1):19–29. • Ayau, E.H. 2005 Honour thy ancestor's possessions. *Public Archaeology* 4:193–197. • Bethard, J.D. and E.A. DiGangi 2020 Letter to the editor– moving beyond a lost cause: Forensic anthropology and ancestry estimates in the United States. *Journal of Forensic Sciences* 65(5):1791–1792. • Bewes, J., A. Low, A. Morphett, F.D. Pate and M. Henneberg 2019

Type of Literature	Themes/Information	References
		Artificial intelligence for sex classification of skeletal remains: Application of a deep learning neural network to human skulls. *Journal of Forensic and Legal Medicine* 62:40–43. • Boutin, A.T., M. Long, R.A. Dinarte and E.R. Thompson 2017 Building a better bioarchaeology through community collaboration. *Bioarchaeology International* 1(3–4):191–204. • Bowdler, S. 1992 Unquiet slumbers: The return of the Kow Swamp burials. *Antiquity* 66(250):103–106. • Bowler, J.M., H. Johnston, J.M. Olley and J.R. Prescott 2003 New ages for human occupation and climatic change at Lake Mungo, Australia. *Nature* 421:837–840. • Brown, A.G. 2006 The use of forensic botany and geology in war crimes investigations in NE Bosnia. *Forensic Science International* 163(2006):204–210. • Collard, M., S. Wasef, S. Adams, K. Wright, R.J. Mitchell, J.L. Wright, G.

Type of Literature	Themes/Information	References
		Wrobel, N. Nagle, A. Millar, R. Wood, T.J. Pietsch, S. Van Holst Pellekaan, C. Flinders and M.C. Westaway 2019 Giving it a burl: Towards the integration of genetic, isotope chemistry, and osteoarchaeology in Cape York, tropical North Queensland, Australia. *World Archaeology* 51(4):602–619. • Colwell-Chanthaphonh, C., T.J. Ferguson, D. Lippett, R.H. McGuire, G.P. Nicholas, J.E. Watkins and L.J. Zimmerman 2010 The premise and promise of Indigenous archaeology. *American Antiquity* 75(2):228–238. • Draper, N. 2015 Recording traditional Kaurna cultural values in Adelaide– the continuity of Aboriginal cultural traditions within an Australian capital city. *Historic Environment* 27(1):78–89. • Elvery, M.W., N.W. Savage and W.B. Wood 1998 Radiographic study of the

Type of Literature	Themes/Information	References
		Broadbeach Aboriginal dentition. *American Journal of Physical Anthropology* 107:211–219. • Fforde, C. 2009 From Edinburgh University to the Ngarrindjeri Nation, South Australia. *Museum International* 61(1–2):41–47. • Fforde, C. and J. Hubert 2006 Indigenous human remains and changing museum ideology. In R. Layton, S. Shennan and P. Store (eds), *The Future for Archaeology*, pp.83–96. London: UCL Press. • Finkel, E. 1998 Aboriginal groups warm to Studies of Early Australians. *Science* 280:1342–1343. • Harris, F. 2015 Understanding human remains repatriation: Practice procedures at the British Museum and the Natural History Museum. *Museum Management and Curatorship* 30(2):138–153. • Henson, K., P. Constantino, F.R. O'Keefe and G. Popovich 2019 Three-dimensional scanning and

Type of Literature	Themes/Information	References
		printing techniques to analyse and archive human skeletal remains. *Library H: Tech* 37(3):389–400. • Hill, E.C., O.M Pearson, A.C. Durband, K. Walshe, K.J. Carlson and F.E. Grine 2020 An examination of the cross-sectional geometric properties of the long bone diaphysis of Holocene foragers from Roonka, South Australia. *American Journal of Physical Anthropology* 172(4):682–697. • Jones, P. 1988 Collections and curators: South Australian Museum Anthropology from the 1860s to the 1920s. *Journal of the Historical Society of SA* 16:87–103. • Jones, R., A.L. Roberts, C. Westell, I. Moffat, G. Jacobsen, R. Rudd and River Murray and Mallee Aboriginal Corporation 2022 Aboriginal earth mounds of the Calperum Floodplain (Murray Darling Basin, South Australia): New radiocarbon dates, sediment analyses and syntheses, and implications for behavioural

Type of Literature	Themes/Information	References
		change. *The Holocene*, 32(8):816–834. • Kakaliouras, A.M. 2008 Leaving few bones unturned: Recent work on repatriation by osteologists. *American Anthropologist* 110(1):44–52. • Littleton, J., F. Petchey, K. Walshe and F.D. Pate 2017 A preliminary redating of the Holocene Roonka burials, south-eastern Australia. *Archaeology in Oceania* 52(2017):98–107. • Mays, S. 2011 The scientific study of human skeletal remains. *English Heritage Conservation Bulletin* 66:5–7. • Morris, A.G., T. Sullivan and D. Griffin 2002 Implementing NAGPRA: The effective management of legislated change in museums. *Management Decision* 40(1):35–49. • Mulvaney, J. 1991 Past regained, future lost: the Kow Swamp Pleistocene burials. *Antiquity* 65(246):12–21.

Type of Literature	Themes/Information	References
		• Owen, T.D. and F.D. Pate 2014 A Kaurna burial, Salisbury, South Australia: Further evidence for complex late Holocene Aboriginal social systems in the Adelaide region. *Australian Archaeology* 79(1):45–53. • Owen, T.D. and M. Casey 2017 The Old Sydney Burial Ground: Using isotopic analysis to infer the origin of individual skeletons. *Australasian Historical Archaeology* 35:24–33. • Owen, T.D., M. Casey and N. Pitt 2017 The Old Sydney Burial Ground: An inference of early colonial diet in Sydney and Britain. *Australasian Historical Archaeology* 35:34–42. • Pate, F.D. 1995 Stable carbon isotope assessment of hunter-gatherer mobility in prehistoric South Australia. *Journal of Archaeological Science* 22:81–87. • Pate, F.D. 1998 Bone collagen stable nitrogen and carbon isotopes as indicators of prehistoric diet and landscape use in south-eastern

Type of Literature	Themes/Information	References
		South Australia. *Australian Archaeology* 46:23–29. • Pate, F.D. 1998b Stable carbon and nitrogen isotope evidence for prehistoric hunter-gatherer diet in the lower Murray basin, South Australia. *Archaeology in Oceania* 33:92–99. • Pate, F.D. 2000 Bone chemistry and paleodiet: Bioarchaeological research at Roonka Flat, lower Murray River, South Australia 1983–1999. *Australian Archaeology* 50:67–74. • Pate, F.D. 2006 Hunter-gatherer social complexity at Roonka, South Australia. In B. David, B. Barker and I.J. McNiven (eds), *Social Archaeology of Australian Indigenous Societies*, pp. 226–241. Canberra: Aboriginal Studies Press. • Pate, F.D. 2017 Diet, mobility and subsistence-settlement systems in the late Holocene Lower Murray River Basin of South Australia: Testing models of Aboriginal seasonal mobility and sedentism with isotopic and archaeological

Type of Literature	Themes/Information	References
		data. *Journal of the Anthropological Society of South Australia* 41:123–171. • Pate, F.D. and T.D. Owen 2013 Stable carbon and nitrogen isotopes as indicators of sedentism and territoriality in late Holocene South Australia. *Archaeology in Oceania* 49(2):86–94. • Pate, F.D., G.L. Pretty, R. Hunter, C. Tuniz and E.M. Lawson 1998 New radiocarbon dates for the Roonka Flat Aboriginal burial ground, South Australia. *Australian Archaeology* 46:36–37. • Pate, F.D., T.J. Anson, M.J. Schoeninger and A.H. Noble 1998b Bone collagen stable carbon and nitrogen isotope variability in modern South Australian mammals: A baseline for palaeoecological inferences. *Quaternary Australasia* 16:43–51. • Pate, F.D., T.D. Owen and E. Lawson 2003 AMS radiocarbon dating of bone collagen: Estimating a chronology for the Swanport Aboriginal burial ground, South

Type of Literature	Themes/Information	References
		Australia. *Australian Archaeology* 56:8–11. • Pate, F.D., R. Brodie and T.D. Owen 2002 Determination of geographical origin of unprovenanced Aboriginal skeletal remains in South Australia employing stable carbon and isotopic analysis. *Australian Archaeology* 55:1–7. • Pate, F.D., A.L. Roberts, K. Walshe and T.D. Owen 2011 Stable isotopic analysis of Indigenous skeletal remains from Blanchetown Bridge, South Australia. *Journal of the Anthropological Society of South Australia* 34:90–99. • Pate, F.D., M. Henneberg, T.J. Anson, T.D. Owen, J. Newchurch, N. Draper, C. Wright, T. Lucus, I. Moffat, L.S. Weyrich, E. Shelly, J. Naumann, A. Gurr, C. Logan and J. Walsh 2020 A stable, inexpensive and widely available burial environment or keeping place for archaeological or historical human skeletal remains.

Type of Literature	Themes/Information	References
		Australasian Historical Archaeology 38:68–71. • Payne, S. 2011 Reburial and repatriation: Whose bones are they? *English Heritage Conservation Bulletin* 66:9–11. • Phillips, N. 2019 Bringing home the ancestors. *Nature* 568:244–297. • Pickering, M. 2010b Where are the stories? *The Public Historian* 32(1):79–95. • Pickering, M. 2020c The supernatural and sensitive Indigenous material: A Workplace Health and Safety issue? *Museum Management and Curatorship*: 1–19. • Pirrie, D., L. Dawson and G. Graham 2017 Predictive geolocation: Forensic soil analysis for provenance determination. *Episodes* 40(2):141–147. • Pirrie, D., L., G.K. Rollinson, J.C. Andersen, D. Wootton and S. Moorhead 2013 Soil forensics as a tool to test reported artefact find sites. *Journal of Archaeological Science* 41(2014):461–473.

Type of Literature	Themes/Information	References
		• Prescott, J.R., H.A. Polach, G.L. Pretty and B.W. Smith 1983 Comparison of ^{14}C and thermoluminescent dates from Roonka, South Australia. *Council of Europe Journal, PACT* 8:205–211. • Pretty, G.L. 1986 Australian history at Roonka. *Journal of the Historical Society of South Australia* 14:107–122. • Pretty, G.L. and M.E. Kricun 1989 Prehistoric health status of the Roonka population. *World Archaeology* 21:198–224. • Pretty, G.L., M. Henneberg, K.M. Lambert and M. Prokopec 1998 Trends in stature in the South Australian Aboriginal Murraylands. *American Journal of Physical Anthropology* 106:505–514. • Prokopec, M. 1979 Demographical and morphological aspects of the Roonka population. *Archaeology and Physical Anthropology in Oceania* 14:11–26. • Redfern, R. and M. Clegg 2017 Archaeologically derived human

Type of Literature	Themes/Information	References
		remains in England: Legacy and future. *World Archaeology* 49(5):574–587. • Riding, J.I. 1996 Repatriation: A Pawnee's perspective. *American Indian Quarterly* 20(2):238–250. • Rippon, L., M. Rollog, D. Bruce, J. Farkas, F.D. Pate, T.D. Owen, T. Lucas, S. McCallum and I. Moffat 2020 Baseline bioavailable strontium and oxygen isotope mapping of the Adelaide region, South Australia. *Journal of Archaeological Science: Reports* 34:1–18. • Robertson, S. 2007 Sources of bias in the Murray Black collection: Implications for paleopathological analysis. *Australian Aboriginal Studies* 1:116–130. • Smith, L. 2004 The repatriation of human remains– problem or opportunity? *Antiquity* 78 (300):404–415. • Smith, P., T. Brown and W.B. Wood 1981 Tooth size and morphology in a recent Australian Aboriginal population from Broadbeach, south east

Type of Literature	Themes/Information	References
		Queensland. *American Journal of Physical Anthropology* 55:423–432. • Stirling, E.C. 1911 Preliminary report on the discovery of native remains at Swanport, River Murray, with an inquiry into the alleged occurrence of a pandemic among the Australian Aboriginals. *Transactions of the Royal Society of South Australia* 35:4–46. • Swain, H. 2007 The value of human remains in museum collections: An international symposium held at the Museum in Docklands, London, March 2007. *Public Archaeology* 6(3):193–197. • Turnbull, P. 2020b International repatriations of Indigenous human remains and its complexities: the Australian experience. *Museum and Society* 18(1):6–19. • Warren, K., D. Sammeth, S. Mahen and J. Nevins 2013 A non-destructive method for dating human remains. *Advances in Archaeological Practice: A Journal of the Society for*

Type of Literature	Themes/Information	References
		American Archaeology November: 91–103. • Watson, N. 2003 The repatriation of Indigenous remains in the United States of America and Australia: A comparative analysis. *Australian Indigenous Law Reporter* 8(1):33–44. • Westaway, M., W. Muller, H. Harradine and J. Chatfield 2004 Resolving complex provenance issues through isotopic analysis of human bones and the potential benefits to Aboriginal communities. *The Artefact* 27:91–96. • Wilson, C. 2007 Indigenous research and archaeology: Transformative practices in/with/for the Ngarrindjeri community. *Archaeologies* 3(3):320–334. • Wilson, C. 2009 Implications and challenges of repatriating and reburying Ngarrindjeri Old People from the 'Edinburgh Collection'. *Museum International* 61(1–2):37–40.

Type of Literature	Themes/Information	References
		• Wisely, S.M., J.E. Maldonado and R.C. Fletcher 2004 A technique for sampling ancient DNA that minimises damage to museum specimens. *Conservation Genetics* 5:105–107. • Wright, J.L., S. Wasef, T.H. Heupink, M.C. Westaway, S. Rasmussen, C. Pardoe, G.G. Fourmile, M. Young, T. Johnson, J. Slade, R. Kennedy, P. Winch, M. Pappin Sr, T. Waks, W. Bates, S. Hamilton, N. Whyman, S. van Hoist Pellekaan, P.J. McAllister, P.S.C. Tacon, D. Curnoe, R. Li, C. Millar, S. Subramanian, E. Willerslev, A. Malaspinas, M. Sikova and D.M. Lambert 2018 Ancient nuclear genomics enable repatriation of Indigenous human remains. *Science Advances* 4:1–12.
Edited Book Chapter	• Repatriation • Historical collecting practices • Indigenous perspectives on repatriation • Bioarchaeology	• Aird, M. 2002 Developments in the repatriation of human remains and other cultural items in Queensland, Australia. In C. Fforde, J. Hubert and P. Turnbull (eds), *The Dead and their Possessions: Repatriation in Principle, Policy and*

Type of Literature	Themes/Information	References
	• Museum collections of ancestral remains • Historical collecting practices • Indigenous archaeology • International case studies • Indigenous identity • Reconciliation • Ethical issues in bioarchaeology and repatriation • Provenancing • International policies on repatriation	*Practice*, pp.304–311. London: Routledge. • Alfonso, M.P. and J. Powell 2007 Ethics of flesh and bone, or ethics in the practice of paleopathology, osteology, and bioarchaeology. In V. Cassman, N. Odegaard and J. Powell (eds), *Human Remains: Guide for Museums and Academic Institutions*, pp.5–20. New York: AltaMira Press. • Aranui, A., C. Fforde, M. Pickering, P. Turnbull, G. Knapman and H. Keeler 2020 'Under the hammer': The role of auction houses and dealers in the distribution of Indigenous ancestral remains. In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.335–360. New York: Routledge. • Atkinson, H. 2010 The meaning and values of repatriation. In P. Turnbull and M. Pickering (eds), *The Long Way Home: The Meanings and*

Type of Literature	Themes/Information	References
		Values of Repatriation, pp. 15–19. New York: Berghahn Books. • Bell, L. 2010 Museums, ethics and human remains in England: Recent developments and implications for the future. In P. Turnbull and M. Pickering (eds), *The Long Way Home: The Meanings and Values of Repatriation*, pp. 29–34. New York: Berghahn Books. • Besterman, T.P. 2020 Contested human remains in museums. In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew* pp. 940–960. New York: Routledge. • Buikstra, J.E. 2006 Repatriation and bioarchaeology: Challenges and opportunities. In J.E. Buikstra and L.A. Beck (eds), *Bioarchaeology: The Contextual Analysis of Human Remains*, pp.389–415. London: Elsevier. • Campton, S. and R. Lane 2020 The return of ancestral remains from the Natural History Museum,

Type of Literature	Themes/Information	References
		London, to Torres Strait Islander Traditional Owners: The institutional and governmental view. In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew* pp. 709–718. New York: Routledge. • Cassman, V. and N. Odegaard 2007 Examination and analysis. In V. Cassman, N. Odegaard and J. Powell (eds), *Human Remains: Guide for Museums and Academic Institutions*, pp.49–76. New York: AltaMira Press. • Cassman, V., N. Odegaard and J. Powell 2007 Introduction: Dealing with the dead. In V. Cassman, N. Odegaard and J. Powell (eds), *Human Remains: Guide for Museums and Academic Institutions*, pp.1–4. New York: AltaMira Press. • Chatters, J.C. 2014 Geography, paleoecology and archaeology. In D.W. Owsley and R.L. Jantz (eds), *Kennewick Man: The Scientific Investigation of an Ancient*

Type of Literature	Themes/Information	References
		American Skeleton, pp.30–58. Texas: Texas A&M University Press. • Creamer, H. 1990 Aboriginal perceptions of the past: The implications for cultural resource management in Australia, In P. Gathercole and D. Lowenthal (eds), *The Politics of the Past*, pp.130–138. London: Routledge. • Cubillo, F. 2010 Repatriating our ancestors: Who will speak for the dead. In P. Turnbull and M. Pickering (eds), *The Long Way Home: The Meanings and Values of Repatriation*, pp. 20–26. New York: Berghahn Books. • Cybulski, J.S. 2011 Canada. In N. Marquez-Grant and L. Fibiger (eds), *The Routledge Handbook of Archaeological Human Remains and Legislation: An International Guide to Law and Practice in the Excavation and Treatment of Archaeological Human Remains*, pp.647–655.

Type of Literature	Themes/Information	References
		Florence: Taylor and Francis Group. • Donlon, D. and J. Littleton 2011 Australia. In N. Marquez-Grant and L. Fibiger (eds), *The Routledge Handbook of Archaeological Human Remains and Legislation: An International Guide to Law and Practice in the Excavation and Treatment of Archaeological Human Remains*, pp.689–690. Florence: Taylor and Francis Group. • Fforde, C. 2002 Yagan. In C. Fforde, J. Hubert and P. Turnbull (eds), *The Dead and their Possessions: Repatriation in Principle, Policy and Practice*, pp.229–241. London: Routledge. • Fforde, C. 2004a Collection, repatriation and identity. In C. Fforde, J. Hubert and P. Turnbull (eds), *The Dead and their Possessions: Repatriation in Principle, Policy and Practice*, pp.25–46. London: Routledge.

Type of Literature	Themes/Information	References
		• Fforde, C. 2013 In search of others: The history and legacy of 'race' collections. In S. Tarlow and L. Nilsson Stutz (eds), *The Oxford Handbook of The Archaeology of Death and Burial*, pp.709–731. Oxford: Oxford University Press. • Fforde, C. and J. Oscar 2020 'Australian Aborigine skulls in a loft in Birmingham, it seems a weird thing': Repatriation work and the search for Jandamarra. In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.588–609. New York: Routledge. • Fforde, C., J. Hubert and P. Turnbull 2004 Preface to the paperback edition. In C. Fforde, J. Hubert and P. Turnbull (eds), *The Dead and their Possessions: Repatriation in Principle, Policy and Practice*, pp.xiv–xvi. London: Routledge.

Type of Literature	Themes/Information	References
		• Fforde, C., H. Keeler, A. Aranui, M. Pickering and A. Goodman 2020 Research for repatriation practice. In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.541–563. New York: Routledge. • Fforde, C., G. Knapman and C. Walsh 2020b Dignified relationships: Repatriation, healing and reconciliation. In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.745–768. New York: Routledge. • Fforde, C., P. Turnbull, N. Carter and A. Aranui 2020c Missionaries and the removal, illegal export, and return of ancestral remains: The case of Father Ernst Worms. In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous*

Type of Literature	Themes/Information	References
		Repatriation: Return, Reconcile, Renew, pp.316–334. New York: Routledge. • Fforde, C., G. Knapman and C. Walsh 2020d Dignified relationships: Repatriation, healing and reconciliation. In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.745–768. New York: Routledge. • Fforde, C., C.T. McKeown, H. Keeler, L. Ormond-Parker, P. Tapsell, P. Turnbull, S. Hemming, D. Rigney, M. Pickering, A. Aranui, W. Morris and G. Knapman 2021 Identity in applied repatriation research and practice. In C.H. Meloche, L. Spake and K.L. Nichols (eds), *Working with and for Ancestors: Collaboration in the Care and Study of Ancestral Remains*, pp.255–266. New York: Routledge.

Type of Literature	Themes/Information	References
		• Giles, M and H. Williams 2016 Introduction: Mortuary archaeology in contemporary society. In H. Williams and M. Giles (eds), *Archaeologists and the Dead: Mortuary Archaeology in Contemporary Society*, pp.1–18. Oxford: Oxford University Press. • Gilmore, H., A. Aranui and S.E. Halcrow 2019 Ethical issues of bioarcheology in New Zealand–Aotearoa: Relationships, research and repatriation. In K. Squires, D. Errickson and N. Marquez-Grant (eds), *Ethical Approaches to Human Remains*, pp.431–445. Cham, Switzerland: Springer. • Hanchant, D. 2004 Practicalities in the return of remains: the importance of provenance and the question of unprovenanced remains. In C. Fforde, J. Hubert and P. Turnbull (eds), *The Dead and their Possessions: Repatriation in Principle, Policy and Practice*, pp.312–316. London: Routledge.

Type of Literature	Themes/Information	References
		• Harris, H. 2005 Indigenous worldviews and ways of knowing as theoretical and methodological foundations for archaeological research. In C. Smith and H.M. Wobst (eds), *Indigenous Archaeologies: Decolonising Theory and Practice*, pp.30–37. Florence: Taylor and Frances Group. • Hayflick, E. and H.A. Robbins 2020 Towards a twenty-first century model for the collaborative care and curation of human remains. In C.H. Meloche, L. Spake and K.L. Nichols (eds), *Working With and For Ancestors: Collaboration in the Care and Study of Ancestral Remains*, pp. 103–114. New York: Routledge. • Hemming, S. and C. Wilson 2010 The first 'Stolen Generations:' Repatriation and reburial in Ngarrindjeri Ruwe (Country). In P. Turnbull and M. Pickering (eds), *The Long Way Home: The Meanings and Values of Repatriation*, pp.

Type of Literature	Themes/Information	References
		183–198. New York: Berghahn Books. • Hemming, S., D. Rigney, M. Sumner, L. Trevorrow, L. Rankine Jr, S. Berg and C. Wilson 2020 Ngarrindjeri repatriation: Kungun Ngarrindjeri Yunnam (listen to Ngarrindjeri speaking). In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.147–164. New York: Routledge. • Huber, A. 2020 Genomic testing of ancient DNA: The case of the Ancient One (also known as Kennewick Man). In C. Fforde, C.T. McKeown and H. Keeler (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.625–636. New York: Routledge. • Hubert, J. 1989 A proper place for the dead: a critical review of the 'reburial' issue. In R. Layton (ed.) *Conflict in the Archaeology of Living Traditions*, pp.133–169.

Type of Literature	Themes/Information	References
		Florence: Taylor and Francis Group. • Hubert, J. and C. Fforde 2004 Introduction: The reburial issue in the twenty-first century. In C. Fforde, J. Hubert and P. Turnbull (eds), *The Dead and their Possessions: Repatriation in Principle, Policy and Practice*, pp.1–16. London: Routledge. • Jackson, G. and C. Smith 2005 Living and learning on Aboriginal lands: Decolonizing archaeology in practice. In C. Smith and H.M. Wobst (eds), *Indigenous Archaeologies: Decolonising Theory and Practice*, pp.309–330. Florence: Taylor and Frances Group. • Knapman, G. 2020 'Let them rest in peace': Exploring interconnections between repatriation from museums and battlefield contexts. In C. Fforde, H. Keeler and C.T. McKeown (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.874–889. New York: Routledge.

Type of Literature	Themes/Information	References
		• Loveless, R. and B. Linton 2019 Culturally sensitive and scientifically sound: Ethical challenges of human osteology in contemporary archaeology in the United States of America. In K. Squires, D. Errickson and N. Marquez-Grant (eds), *Ethical Approaches to Human Remains*, pp.401–426. Cham, Switzerland: Springer. • McManamon, F.P. 2006 Policy and practice in the treatment of archaeological human remains in North American museum and public agency collections. In J. Lohman and K. Goodnow (eds), *Human Remains and Museum Practice*, pp.48–59. Paris: UNESCO. • Morphy, H. 2010 Scientific knowledge and rights in skeletal remains– Dilemmas in the curation of 'other' people's bones. In P. Turnbull and M. Pickering (eds), *The Long Way Home: The Meanings and Values of Repatriation*, pp.

Type of Literature	Themes/Information	References
		147–162. New York: Berghahn Books. • Morris, A.G. 2007 Documentation: History and the sources of skeletons in collections. In V. Cassman, N. Odegaard and J. Powell (eds), *Human Remains: Guide for Museums and Academic Institutions,* pp.151–161. New York: AltaMira Press. • Morton, S. 2020 Inside the human remains store: The impact of repatriation on museum practice in the United Kingdom. In C. Fforde, H. Keeler and C.T. McKeown (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.902–917. New York: Routledge. • Ormond-Parker, L., N. Carter, C. Fforde, G. Knapman and W. Morris 2020 Repatriation in the Kimberley: Practice, approach, and contextual history. In C. Fforde, H. Keeler and C.T. McKeown (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.165–187. New York: Routledge.

Type of Literature	Themes/Information	References
		• Pardoe, C. 2013 Repatriation, reburial and biological research in Australia: Rhetoric and practice. In S. Tarlow and L. Nilsson Struz (eds), *The Oxford Handbook of the Archaeology of Death and Burial*, pp.733–761. Oxford: Oxford University Press. • Pate, F.D. 2008 Geographic origin and mobility recorded in the chemical composition of human tissues. In M. Oxenham (ed.) *Forensic Approaches to Death, Disaster and Abuse*, pp.177–188. Bowen Hills, Queensland: Australian Academic Press. • Pate, F.D. 2008b The use of human skeletal remains in landscape archaeology. In B. David and J. Thomas (eds), *Handbook of Landscape Archaeology*, pp.502–520. Walnut Creek, California: Left Coast Press. • Pate, F.D. and M.J. Schoeninger 1993 Stable carbon isotope ratios in bone collagen as indicators of marine and terrestrial dietary composition in south-eastern South Australia: A preliminary report. In

Type of Literature	Themes/Information	References
		B.L. Fankhauser and J.R. Bird (eds), *Archaeometry: Current Australasian Research, Occasional Papers in Prehistory* 22, pp.38–44. Canberra: Department of Prehistory, Research School of Pacific Studies, Australian National University. • Pickering, M. 2006 Policy and research issues affecting human remains in Australian museum collections. In J. Lohman and K. Goodnow (eds), *Human Remains and Museum Practice*, pp.42–47. Paris: UNESCO. • Pickering, M. 2007 Where to from here? Repatriation of Indigenous human remains and 'The Museum.' In S.J. Knell, S. MacLeod and S. Watson (eds), *Museum Revolutions: How Museums Change and Are Changed*, pp.250–259. London: Routledge. • Pickering, M. 2010 Despatches from the front line? Museum experiences in applied repatriation. In P. Turnbull and M. Pickering (eds), *The Long Way Home: The*

Type of Literature	Themes/Information	References
		Meanings and Values of Repatriation, pp.163–174. New York: Berghahn Books. • Pickering, M. 2015 Rewards and frustrations: Repatriation of Aboriginal and Torres Strait Islander Ancestral Remains by the National Museum of Australia. In C. McCarthy (ed.) *Museum Practice*, pp.455–478. West Sussex: John Wiley and Sons Ltd. • Pickering, M. 2020b 'And the walls came tumbling down.' In C. Fforde, H. Keeler and C.T. McKeown (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.918–926. New York: Routledge. • Pickering, M. and P. Gordon 2011 Repatriation: The end of the beginning. In D. Griffin and L. Paroissien (eds), *Understanding Museums: Australian Museums and Museology*, pp.1–8. Canberra: National Museum of Australia. • Pretty, G.L. 1977 The cultural chronology of the Roonka Flat. In R.V.S. Wright (ed.) *Stone Tools as*

Type of Literature	Themes/Information	References
		Cultural Markers: Change, Evolution and Complexity, pp.288–331. Canberra: Australian Institute of Aboriginal Studies. • Pretty, G.L. 1988 Radiometric chronology and significance of the fossil hominid sequence from Roonka, South Australia. In J.R. Prescott (ed.) *Early Man in the Southern Hemisphere. Supplement to Archaeometry: Australasian Studies 1988*, pp.S32–S52. Adelaide: University of Adelaide. • Prokopec, M. and G.L. Pretty 1991 Observations on health, genetics and culture from analysis of skeletal remains from Roonka, South Australia. In D.J. Ortner and A.C. Aufderheide (eds), *Human Paleopathology: Current Synthesis and Future Options*, pp.151–158. Washington, D.C.: Smithsonian Institution Press. • Richardson, L. 1994 The acquisition, storage and handling of Aboriginal skeletal remains in museums: An Indigenous perspective. In R. Layton (ed.) *Conflict in the Archaeology of*

Type of Literature	Themes/Information	References
		Living Traditions, pp.189–192. Florence: Taylor and Francis Group. • Roberts, C.A. 2019 Ethical and practical challenges of working with archaeological human remains, with a focus on the UK. In K. Squires, D. Errickson and N. Marquez-Grant (eds), *Ethical Approaches to Human Remains*, pp. 133–155. Cham, Switzerland: Springer. • Roginski, A. 2020 Two eagles and Jim Crow: Reburial and history-making in the Hunter Valley, New South Wales. In C. Fforde, H. Keeler and C.T. McKeown (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.719–741. New York: Routledge. • Schaeppe, D. and S. Rowley 2020 The journey home: Sto:lo values and collaboration in repatriation. In C.H. Meloche, L. Spake and K.L. Nichols (eds), *Working with and for ancestors: Collaboration in the care and study of ancestral*

Type of Literature	Themes/Information	References
		remains, pp.139–150. New York: Routledge. • Smith, C. and H.M. Wobst 2005 Decolonizing archaeological theory and practice. In C. Smith and H.M. Wobst (eds), *Indigenous Archaeologies: Decolonising Theory and Practice*, pp.4–14. Florence: Taylor and Frances Group. • Smith, C. 2005b The next step: An archaeology for social justice. In C. Smith and H.M. Wobst (eds), *Indigenous Archaeologies: Decolonising Theory and Practice*, pp.369–371. Florence: Taylor and Frances Group. • Smith, S.E. and C.S. Hirst 2019 3D data in human remains disciplines: The ethical challenges. In K. Squires, D. Errickson and N. Marquez-Grant (eds), *Ethical Approaches to Human Remains*, pp.315–346. Cham, Switzerland: Springer. • Spake, L., G. Nicholas and H.F.V. Cardoso 2020 The digital lives of ancestors: Ethical and intellectual property

Type of Literature	Themes/Information	References
		considerations surrounding the 3D recording of human remains. In C.H. Meloche, L. Spake and K.L. Nichols (eds), *Working with and for Ancestors: Collaboration in the Care and Study of Ancestral Remains*, pp.205–218. New York: Routledge. • Squires, K., T. Booth and C.A. Roberts 2019 The ethics of sampling human skeletal remains for destructive analyses. In K. Squires, D. Errickson and N. Marquez-Grant (eds), *Ethical Approaches to Human Remains*, pp. 265–298. Cham, Switzerland: Springer. • Stone, P.K. 2018 Introduction. In P.K. Stone (ed.), *Bioarchaeological Analyses and Bodies: Bioarchaeology and Social Theory*, pp.4–8. Cham, Switzerland: Springer. • Supenant, K. 2021 Decolonising bioarchaeology. In C.H. Meloche, L. Spake and K.L. Nichols (eds), *Working With and For Ancestors: Collaboration in the Care and*

Type of Literature	Themes/Information	References
		Study of Ancestral Remains, pp. 268–280. New York: Routledge. • Swain, H. 2016 Museum practice and the display of human remains. In H. Williams and M. Giles (eds), *Archaeologists and the Dead: Mortuary Archaeology in Contemporary Society*, pp.169–183. Oxford: Oxford University Press. • Tapsell, P. 2016 Museums as cemeteries: Do the living really matter? in L. Field, J. Watkins and C. Gnecco (eds), *Challenging the Dichotomy: The Licit and the Illicit in Archaeological and Heritage Discourses*, pp.197–218. Arizona: University of Arizona Press. • Tapsell, P. 2020 When the living forget the dead: The cross-cultural complexity of implementing the return of museum-held ancestral remains. In C. Fforde, H. Keeler and C.T. McKeown (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.259–276. New York: Routledge.

Type of Literature	Themes/Information	References
		• Tarle, L., G. Nicholas and H.F.V. Caroloso 2020 What next? Changing ethical protocols for human remains in museums. In C.H. Meloche, L. Spake and K.L. Nichols (eds), *Working with and for Ancestors: Collaboration in the Care and Study of Ancestral Remains*, pp.219–232. New York: Routledge. • Tayles, N. and S. Halcrow 2011 New Zealand/Aotearoa. In N. Marquez-Grant and L. Fibiger (eds), *The Routledge Handbook of Archaeological Human Remains and Legislation: An International Guide to Law and Practice in the Excavation and Treatment of Archaeological Human Remains*, pp.647–655. Florence: Taylor and Francis Group. • Turnbull, P. 2004 Indigenous Australian people, their defence of the dead and native title. In C. Fforde, J. Hubert and P. Turnbull (eds), *The Dead and their Possessions: Repatriation in Principle, Policy and Practice*, pp.47–86. London: Routledge.

Type of Literature	Themes/Information	References
		• Turnbull, P. 2010 Introduction. In P. Turnbull and M. Pickering (eds), *The Long Way Home: The Meanings and Values of Repatriation*, pp.1–9. New York: Berghahn Books. • Turnbull, P. 2010b The Vermillion Accord and the significance of the history of the scientific procurement and use of Indigenous Australian bodily remains. In P. Turnbull and M. Pickering (eds), *The Long Way Home: The Meanings and Values of Repatriation*, pp.117–134. New York: Berghahn Books. • Turnbull, P. 2012 A judicious collector: Edward Charles Stirling and the procurement of Aboriginal bodily remains in South Australia, c.1880-1912. In S. Wilde (ed.) *The Body Divided: Human Beings and Human 'Material' in Modern Medical History*, pp.109–130. London: Taylor and Francis Group. • Turnbull, P. 2020 The ethics of repatriation: Reflections on the Australian experience. In C. Fforde, H. Keeler and C.T.

Type of Literature	Themes/Information	References
		McKeown (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.927–939. New York: Routledge. • Turnbull, P. 2020c Collecting and colonial violence. In C. Fforde, H. Keeler and C.T. McKeown (eds), *The Routledge Companion to Indigenous Repatriation: Return, Reconcile, Renew*, pp.452–468. New York: Routledge. • Ubelaker, D.H. 2011 The United States. In N. Marquez-Grant and L. Fibiger (eds), *The Routledge Handbook of Archaeological Human Remains and Legislation: An International Guide to Law and Practice in the Excavation and Treatment of Archaeological Human Remains*, pp.533–540. Florence: Taylor and Francis Group. • Ubelaker, D.H. and H. Khosrowshahi 2019 Ethical perspectives in forensic anthropology and museum curation in the United States of America. In K. Squires, D. Errickson and N.

Type of Literature	Themes/Information	References
		Marquez-Grant (eds), *Ethical Approaches to Human Remains*, pp.387–400. Cham, Switzerland: Springer. • Walker, P.L. 2008 Bioarchaeological ethics: A historical perspective on the value of human remains. In M.A. Katzenberg and S.R. Saunders (eds), *Biological Anthropology of the Human Skeleton, Second Edition*, pp.3–40. Hoboken, New Jersey: John Wiley and Sons, Inc. • Watkins, J. 2003 Archaeological ethics and American Indians. In L.J. Zimmerman, K.D. Vitelli and J. Hollowell-Zimmer (eds), *Ethical Issues in Archaeology*, pp.129–141. California: Altamira Press. • Weisse, A.J. 2021 Provenancing Australian Aboriginal ancestors. In C.H. Meloche, L. Spake and K.L. Nichols (eds), *Working with and for ancestors: Collaboration in the care and study of ancestral remains*, pp.233–240. New York: Routledge. • Westaway, M. and A. Burns 2001 Investigation, documentation and

Type of Literature	Themes/Information	References
		repatriation of Aboriginal skeletal remains: Case study from the Goolum Goolum Aboriginal Co-operative community boundary, Victoria, Australia. In E. Williams (ed.) *Human Remains: Conservation, Retrieval and Analysis – Proceedings of a Conference Held in Williamsburg, VA, November 7-11th 1999*, pp.1–4. Oxford: Archaeopress. • White, B. 2011 The United Kingdom. In N. Marquez-Grant and L. Fibiger (eds), *The Routledge Handbook of Archaeological Human Remains and Legislation: An International Guide to Law and Practice in the Excavation and Treatment of Archaeological Human Remains*, pp.479–491. Florence: Taylor and Francis Group. • Zimmerman, L.J. 2005 First, be humble: Working with Indigenous peoples and other descendant communities. In C. Smith and H.M. Wobst (eds), *Indigenous Archaeologies: Decolonising Theory and Practice*, pp.284–296.

Type of Literature	Themes/Information	References
		Florence: Taylor and Frances Group.
Book	• Repatriation • Bioarchaeology • Museum collections of ancestral remains • Historical collecting practices • Indigenous archaeology	• Bass, William M. 2005 *Human Osteology: A Laboratory and Field Manual, 5th edition*. Columbia, Missouri: Missouri Archaeological Society. • Bernard, H.R. 2017 *Research Methods in Anthropology: Qualitative and Quantitative Approaches.* New York: Rowman and Littlefield. • Blair, L. 2016 *Writing a Graduate Thesis or Dissertation*. Rotterdam: Sense Publishers. • Buikstra, J.E. 2019 *Ortner's Identification of Pathological Conditions in Human Skeletal Remains*. San Diego: Academic Press. • Clegg, M. 2020 *Human Remains: Curation, Reburial and Repatriation*. Cambridge: Cambridge University Press. • Darwin, C. 1906 *The Origin of Species: By Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life, Sixth Edition.*

Type of Literature	Themes/Information	References
		Cambridge: Cambridge University Press. • Denzin, N., Y. Lincoln and L. Tuhiwai Smith 2008 *Handbook of Critical and Indigenous Methodologies*. Thousand Oaks, California: SAGE. • Fforde, C. 2004b *Collecting the Dead: Archaeology and the Reburial Issue*. London: Gerald Duckworth and Co. Ltd. • Fine-Dare, K.S. 2002 *Grave Injustice: The American Indian Repatriation Movement*. Lincoln: University of Nebraska Press. • Jenkins, T. 2011 *Contesting Human Remains in Museum Collections: The Crisis of Cultural Authority*. New York: Routledge. • Jenkins, T. 2016 *Keeping Their Marbles: How the Treasures of the Past Ended Up in Museums– and Why They Should Stay There*. Oxford: Oxford University Press. • Larsen, C.S. 2015 *Bioarchaeology: Interpreting Behavior from the Human Skeleton.* Cambridge: Cambridge University Press.

Type of Literature	Themes/Information	References
		• Mays, S. 2010 *The Archaeology of Human Bones.* London: Routledge. • Parker Pearson, M. 2009 *The Archaeology of Death and Burial*. Gloucestershire: The History Press. • Roberts, C.A. and K. Manchester 2010 *The Archaeology of Disease.* Gloucestershire: The History Press. • Sayer, D. 2010 *Ethics and Burial Archaeology*. London: Gerald Duckworth and Co. Ltd. • Schrader, S. 2019 *Activity, Diet and Social Practice: Addressing Everyday Life in Human Skeletal Remains.* Cham, Switzerland: Springer. • Trigger, B.G. 2014 *A History of Archaeological Thought, 2nd edition.* Cambridge: Cambridge University Press. • Turnbull, P. 2017 *Science, Museums and Collecting the Indigenous Dead in Colonial Australia*. Cham, Switzerland: Palgrave Macmillan. • Walker, D. 2012 *Disease in London, 1st–19th centuries: An Illustrated Guide to Diagnosis*.

Type of Literature	Themes/Information	References
		MOLA Monograph 56. London: Museum of London Archaeology. • Weiss, E. 2008 *Reburying the Past: The Efforts of Repatriation and Reburial on Scientific Inquiry*. New York: Nova Science Publishers, Inc. • Weiss, E. 2009 *Biological Science: What We Have Learned from Human Skeletal Remains*. New York: Nova Science Publishers. • Weiss, E. and J.W. Springer 2020 *Repatriation and Erasing the Past*. Gainesville, Florida: University of Florida Press. • White, T.D., M.T. Black and P.A. Folkens 2012 *Human Osteology, Third Edition.* Burlington, Massachusetts: Academic Press.
Archaeological Report	• Bioarchaeological case studies	• Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) 2016 Records of Broadbeach Aboriginal Burial Ground Excavation (Q1): 1965–1967. Retrieved 20 June 2022 from < https://aiatsis.gov.au/sites/default/files/catalogue_resources/ms5055_broadbeach_excavationfindingaid.pdf >.

Type of Literature	Themes/Information	References
		• Molleson, T., M. Cox, A.H. Waldron and D.K. Whittaker 1993 The Spitalfields Project: Volume 2– The Anthropology, The Middling Sort. *CBA Research Report* 86. York: Council for British Archaeology.
Online Newspaper Article	• Australian case studies • Museum collections of ancestral remains • Australian regional Resting Places and reburials	• Bamford, M. 2017 Aboriginal remains exposed by floodwaters repatriated to higher ground. Retrieved 16 September 2021 from < https://www.abc.net.au/news/ 2017-09-27/aboriginal-remains-exposed-by-floodwaters-repatriated/8992994 >. • Daley, P. 2020 The room of the dead: How a museum became a halfway house for bones and spirits. Retrieved 9 April 2021 from < www.theguradian.com/ australia-news/2020/jul/05/the-room-of-the-dead-how-a-museum-became-a-halfway-house-for-bones-and-spirits >. • Larkins, D. and B. Young 2015 *Gold Coast Indigenous Burial Ground Marks 50 Years Since Discovery*. Retrieved 20 June 2022 from < https://www.abc.net.au/

Type of Literature	Themes/Information	References
		news/2015-11-13/gold-coast-indigenous-burial-ground-marks-50-years/6939962#:~:text =In%201988%2C%20after% 20years%20of%20lobbying%20the %20university%2C,back%20in%2 0the%20right%20spot%2C%22%2 0Ms%20Haglund%20said. >. • Mullins, S. 2021 SA Museum apologises for holding 4,600 Aboriginal remains as first repatriation laid to rest on Country. Retrieved 20 March 2022 from < https:// www.abc.net.au/news/ 2021-12-07/kaurna-aboriginal-ancestral-remains-laid-to-rest/ 100680848 >. • SBS 2022 Second Group of Kaurna Ancestral Remains Return to Country. Retrieved 28 June, 2022 from < https://www.sbs.com.au/nitv/article/2022/06/28/second-group-kaurna-ancestral-remains-return-country >. • Storer, D. 2018 Remains of more than 60 Aboriginal people reburied after Kimberly floods. Retrieved 20 August 2021 from < https:// www.theguardian.com/australia-

Type of Literature	Themes/Information	References
		news/2018/aug/20/remains-of-more-than-60-aboriginal-people-reburied-after-kimberley-floods >.
Research Survey	• Heritage industry public opinion survey on human remains in museums	• BDRC 2009 *Research into Issues Surrounding Human Bones in Museums.* London: English Heritage.
Obituary	• Archaeological academics careers	• Pate, F.D. 2001 Obituary: Graeme L. Pretty (1940–2000). *Australian Aboriginal Studies* 2001(2):82–83. • Pate, F.D. and A.L. Crawford 2001 Obituary: Graeme Lloyd Pretty (1940–2000). *Australian Archaeology* 52: 60–63.
PhD Thesis	• Provenancing • Indigenous identity • Traditional indigenous knowledge • Australian case studies	• Owen, T.D. 2004 'Of More than Usual Interest': A Bioarchaeological Analysis of Ancient Aboriginal Skeletal Material from South-Eastern South Australia. Unpublished Ph.D. thesis, Department of Archaeology, Flinders University, Adelaide, South Australia. • Weisse, A.J. 2021b From Specimen to Person: Determining Provenance and Identity for Aboriginal Human Remains Held in Museums. Unpublished Ph.D. thesis, School of Social Science,

Type of Literature	Themes/Information	References
		University of Queensland, St Lucia, Queensland.
Legislation	• International legislation on human remains	• Human Tissue Act– England, Ireland and Wales 2004. Retrieved 21 November 2020 from < https://www.legislation.gov.uk/ukpga/2004/30/contents >. • Native American Graves Protection and Repatriation Act (NAGPRA) 1990. Retrieved 21 November 2020 from < https://www.blm.gov/sites/blm.gov/files/Native%20American%20Graves%20Protection%20and%20Repatriation%20Act.pdf >. • National Museum of the American Indian Act (NMAI) 1989 *S.978– National Museum of the American Indian Act*. Retrieved 21 November 2020 from < https://www.congress.gov/bill/101st-congress/senate-bill/978 >.
Guidelines	• International museum guidelines on ancestral remains • International museum codes of ethics	• Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) 2012 *Guidelines for Ethical Research in Australian Indigenous Studies.* Canberra: Australian Institute of Aboriginal and Torres Strait Islander Studies.

Type of Literature	Themes/Information	References
	• Australian ancestral remains guidelines • Ethical research guidelines	• British Association of Biological Anthropology and Osteoarchaeology (BABAO) 2019 *BABAO recommendations on the ethical issues surrounding 2D and 3D digital imaging of human remains*. London: British Association of Biological Anthropology and Osteoarchaeology. • Department for Culture, Media and Sport (DCMS) 2003 *The Report of the Working Group on Human Remains*. London: Department for Culture, Media and Sport. • Department for Culture, Media and Sport (DCMS) 2005 *Guidance for the Care of Human Remains in Museums*. Retrieved 21 November 2020 from < https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/906601/GuidanceHumanRemains11Oct.pdf >. • International Council of Museums (ICOM) 2004 *ICOM Code of*

Type of Literature	Themes/Information	References
		Ethics for Museums. Paris: UNESCO. • Janke, T. and Company 2018 *First Peoples– Connecting Custodians: Principles and Guidelines for Australian Museums and Galleries Working with First Peoples Cultural Material, Draft for Consultation*. Canberra: Australian Museums and Galleries Association Incorporated. • Museums Australia 2000 *Previous Possessions, New Obligations: Policies for Museums in Australia.* Canberra: Museums Australia Inc. • Museums Australia 2005 *Continuous Cultures, Ongoing Responsibilities: Principles and Guidelines for Australian Museums Working with Aboriginal and Torres Strait Islander Cultural Heritage*. Canberra: Museums Australia Inc. • National Health and Medical Research Council (NHMRC) 2018 *Ethical Conduct in*

Type of Literature	Themes/Information	References
		Research with Aboriginal and Torres Strait Islander Peoples and Communities: Guidelines for Researchers and Stakeholders. Canberra: Commonwealth of Australia. • United Nations 2007 United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Retrieved 26 September 2020 from < https://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf >. • World Archaeological Congress (WAC) 1989 *The Vermillion Accord on Human Remains*: World Archaeological Congress.
Annual Report	• Australian genomic centre report on annual activities	• National Centre for Indigenous Genomics (NCIG) 2019 Annual Report 2019. Canberra: Australian National University.
Conference Paper	• Human remains recording guidelines • Museology of human remains	• Buikstra, J.E. and D.H. Ubelaker 1994 Standards for data collection from human skeletal remains. *Arkansas Archaeological Survey Research Series, No. 44*. Fayettevile, Arkansas. • Ousley, S. and A. McKeown 2001 Three-dimensional digitising of human skulls as an archival

Type of Literature	Themes/Information	References
		procedure. In E. Williams (ed.) *Human Remains: Conservation, Retrieval and Analysis – Proceedings of a Conference Held in Williamsburg, VA, November 7-11th 1999*, pp.173– 186. Oxford: Archaeopress.
Discussion Paper	• Repatriation • Indigenous knowledge • Indigenous museum engagement	• Grant, C., P. Gordon, O. Robinson, B. Weatherall, N. Carter, H. Atkinson, J. Crew and C. Wilson 2010 *Discussion paper on a review of the International Repatriation Program*. Canberra: International Repatriation Advisory Committee– Department of Families, Housing, Community Services and Indigenous Affairs, Commonwealth of Australia. • Janke, T. and M. Sentina 2018 *Indigenous Knowledge: Issues for Protection and Management, Discussion Paper*. Sydney: Terri Janke and Company Pty Ltd and IP Australia. • Janke, T. and Company 2018b *First Peoples and Australian Museums and Galleries: A Report on the Engagement of Indigenous Australians in the Museum and*

Type of Literature	Themes/Information	References
		Galleries Sector, Written for the Australian Museums and Galleries Association, 2018. Canberra: Australian Museums and Galleries Association.
Industry Website	• Ethical research guidelines • Archaeological excavation reports • Australian museums ancestral remains and repatriation history • International legislation • Indigenous scientific testing centre and ethics • Provenancing • Repatriation	• de Villiers, A., Y. Wajon and M. Pickering 2021 Organisation: National Museum of Australia (1980-). Retrieved 24 July 2021 from <https://returnreconcilerenew.info/ohrm/biogs/E0000178b.htm >. • McKeown, T. 2021 *Place: United States of America*. Retrieved 24 July 2021 from < https:// returnreconcilerenew.info/ohrm/biogs/E0002443b.htm >. • National Centre for Indigenous Genomics (NCIG) 2018 NCIG Governance Framework. Retrieved 14 September 2021 from < https://ncig.anu.edu.au/files/NCIG-Governance-Framework.pdf >. • National Centre for Indigenous Genomics (NCIG) 2018b Ethics Protocol. Retrieved 14 September 2021 from < https://

Type of Literature	Themes/Information	References
		ncig.anu.edu.au/files/NCIG-Ethics-Protocol_21082018.pdf >. • RPS Group 2021 Fitzroy Crossing Cemetery. Retrieved 18 September 2021 from < https://www.rpsgroup.com/projects/fitzroy-crossing-cemetery/ >.
Industry Publication	• Provenancing • Human remains in archaeology	• Return, Reconcile, Renew (RRR) 2020 *RRR Toolkit Document 2: Brief Guide to Provenancing Ancestral Remains*. RRR Digital Archive: Return Reconcile Renew Project. • Roberts, C.A. 2018 *Human Remains in Archaeology: A Handbook– Practical Handbooks in Archaeology No. 19*. York: Council for British Archaeology.
University Website	• Inclusive language • Repatriation	• Monash University 2022 Inclusive Language. Retrieved 8 May 2022 from < https://www.monash.edu/about/editorialstyle/writing/inclusive-language >. • University of Adelaide 2021 Repatriation of Aboriginal Ancestral Remains. Retrieved 18 April 2022 from < https://www.adelaide.edu.au/about/university-

Type of Literature	Themes/Information	References
		profile/repatriation-of-aboriginal-ancestral-remains#what-has-happened-since-the-aboriginal-ancestral-remains-were-relocated-in-2017 >.
Museum Website	• Ancestral remains policies • Repatriation policies • Australian regional Resting Places	• Museum of New Zealand, Te Papa Tongarewa (Te Papa) 2020 The Karanga Aotearoa Repatriation Programme. Retrieved 21 November 2020 from < https://www.tepapa. govt.nz/about/repatriation/karanga-aotearoa-repatriation-programme >. • South Australian Museum (SAM) 2021 Repatriation of Ancestral Remains. Retrieved 5 April 2021 from < www.samuseum.sa.gov. au/the-museum/about/aboriginal-heritage-and-repatriation >. • South Australian Museum (SAM) 2022 Wangayarta. Retrieved 20 March 2022 from < https://www. samuseum.sa. gov.au/wangayarta >.
Museum Publication	• Repatriation handbook	• Australian Museum 2007 *Australian Museums Repatriation Policy for Australian Aboriginal Secret/Sacred and Aboriginal*

Type of Literature	Themes/Information	References
	• Conservation report on National Resting Place • International museum repatriation statistics • International museum human remains and repatriation policies	*Ancestral Remains Collections.* Sydney: The Australian Museum. • British Museum 2019 *British Museum Policy: Human Remains in the Collection*. London: The British Museum. • Museum of London 2011 *Policy for the Care of Human Remains in Museum of London Collections*. London: Museum of London Human Remains Working Group. • Museums Galleries Scotland 2011 *Guidelines for the Care of Human Remains in Scottish Museum Collections*. Edinburgh: Museums Galleries Scotland. • Museums of New Zealand 2021 National Repatriation Policy for Koiwi Tangata and Associated Burial Taonga within Aotearoa. Wellington: Museums of New Zealand Inc. • National Museum of Australia (NMA) 2019 *Australian Aboriginal and Torres Strait Islander Ancestral Human Remains Management and*

Type of Literature	Themes/Information	References
		Repatriation Policy. Canberra: National Museum of Australia. • National Museum of Australia (NMA) 2020 *Conservation Report for a National Resting Place*. Canberra: National Museum of Australia. • Natural History Museum 2019 *Natural History Museum Human Remains Policy*. London: Natural History Museum. • Pickering, M. 2020 *A Repatriation Handbook: A Guide to Repatriating Australian Aboriginal and Torres Strait Islander Ancestral Remains.* Canberra: National Museum of Australia. • Royal BC Museum 2018 *Indigenous Collections and Repatriation Policy*. Victoria BC: Royal BC Museum. • San Diego Museum 2017 *Policy on the Curation of Human Remains at the San Diego Museum of Man– FAQ*. San Diego: San Diego Museum. • Smithsonian Institution 2012 *Guidelines and Procedures for Repatriation: National Museum of*

Type of Literature	Themes/Information	References
		Natural History, Smithsonian Institution. Washington D.C.: Smithsonian Institution. • Smithsonian Institution 2020 *Smithsonian National Museum of the American Indian Repatriation Policy*. Washington D.C.: Smithsonian Institution. • South Australian Museum (SAM) 2018 *Management and Repatriation of Ancestral Remains and Burial Goods Policy*. Adelaide: South Australian Museum.
Government Website	• Australian heritage legislation • Australian repatriation statistics • Australian Government scientific research and testing policies • Australian National Resting Place	• Australian Government 1984 *Aboriginal and Torres Strait Islander Heritage Protection Act*. Retrieved 26 March 2022 from < https://www.legislation. gov.au/ Details/ C2004C00350 >. • Australian Government Office for the Arts 2020 Domestic Repatriation. Retrieved 15 November 2020 from < https:// www.arts.gov.au/what-we-do/cultural-heritage/indigenous-repatriation/domestic-repatriation >.

Type of Literature	Themes/Information	References
		• Australian Government Office for the Arts 2021 Research. Retrieved 12 January 2022 from < https:// www.arts.gov.au/what-we-do/culturalheritage/indigenousrepatriation/research?msclkid=9cb4a918be0b11ec90e08e21539f9312 >. • Australian Government Office for the Arts 2022 National Resting Place. Retrieved 18 April 2022 from < https://www.arts.gov.au/ what-we-do/ culturalheritage/ indigenous- repatriation/national restingplace#:~:text=National%20Resting%20Place%20On%205%20January%202022%2C%20the,Torres%20Strait%20Islander%20cultural%20precinct%20in%20Canberra%E2%80%94Ngurra%20Precinct.?msclkid=6c19b8e7b8b611ec92fdb848633b6895 >. • Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) 2022 Ngurra Cultural Precinct. Retrieved 18 April 2022 from < https://aiatsis.gov.au/ngurra >.
Government Publication	• Australian repatriation statistics	• Aboriginal and Torres Strait Islander: Repatriation 2019

Type of Literature	Themes/Information	References
	• Ethics in human research • Australian Government repatriation policies • Australian Government scientific research and testing policies • Australian National Resting Place	*Indigenous Repatriation—International, Factsheet*. Canberra: Department of Communications and the Arts, Commonwealth of Australia. • Australian Government 2016 *Australian Government Policy on Indigenous Repatriation*. Canberra: Department of Communication and the Arts, Commonwealth of Australia. • Australian Government 2018 *Information for Communities Scientific Testing on Indigenous Ancestral Remains*. Canberra: Department of Communication and the Arts, Commonwealth of Australia. • Ministry for the Arts 2014 *National Resting Place Consultation Report 2014: Advisory Committee for Indigenous Repatriation*. Canberra: Ministry for the Arts.

Appendix 4

Bioarchaeological based methods for provenancing ancestral remains

Method	Destructive or Non-Destructive	Use/ Strengths	Limitations
Metric and Non-Metric Osteological Analysis	Non-destructive	• Craniometric analysis of ancestral remains by taking measurements and comparing the data with other measured characteristics on existing databases of other ancestral remains (Pickering 2020). • Osteological analysis can assist in determining the biological sex of adult remains through the crania and pelvis (Australian Government Office for the Arts 2021; Roberts 2018; Weiss and Springer 2020). • This method for sex estimation in adult remains has a high success rate, 'typically ranging from 70%' (Squires et al. 2019:268) up. • Can estimate the age at death (or age range) of ancestral remains through	• Skull morphology is inaccurate for determining cultural affiliation (social or cultural identity), as it relies on assumptions that skull shape and size remain stable over time (Australian Government Office for the Arts 2021; Fforde et al. 2020; 2021). • Recent studies have questioned the use of this method because there are only a limited number of samples for comparison purposes (Pickering 2020). • Commonly utilised databases of CRANID and FORDISC 'rely on the assumption that there is a high correlation between skull shape and population groups and that skull shape is a stable inheritable characteristic' (RRR 2020:12) and does not adapt or change over time.

Method	Destructive or Non-Destructive	Use/ Strengths	Limitations
		dental development and eruption, bone growth (such as epiphysial fusion) and degeneration of bone surfaces (including the auricular surface or pubic symphysis) (Australian Government Office for the Arts 2021; Roberts 2018; Weiss and Springer 2020). • Can estimate the stature of adult remains from measuring the length of complete long bones (Roberts 2018). • Can assist in estimating ancestry from the skull or body modifications (Roberts 2018). • This method can be used to reunify disarticulated remains, through matching remains with the same age and sex estimates, comparing the stature estimates of different long bones, matching the shape and size of	• Use of different standards for recording measurements of remains could cause problems for data comparison purposes (Morris 2007; Roberts 2019). • Using morphology for estimating ancestry is considered unreliable because ancestry is based on culture and not biology (Bethard and DiGangi 2020; Morris 2007; Pickering 2020; RRR 2020). • As evident from 'The Spitalfields Project' in the UK, conventional methods for aging remains are considered unreliable, as only 39 percent of the project's sample group were aged correctly, with 58 percent under-aged and 2 percent over-aged (Molleson et al. 1993). • Results dependent on ancestral remains remaining intact and not fragmented (Weisse 2021b). • Use of DNA and histological analyses for determination of

Method	Destructive or Non-Destructive	Use/ Strengths	Limitations
		articular surfaces, taphonomic (after burial but before discovery) changes such as similarities in surface discolouration or comparing the degree of preservation, and matching similar pathologies between different skeletal elements (Weisse 2021b; Westaway et al. 2004). • Human skeletal remains can physically record a range of stress experienced information over an individual's lifetime (Pate 2008b). • Descriptions of a particular pathology, fracture, bodily modification or detail of a specific skeletal element donated to an institution can assist in provenancing ancestral remains (Australian Government Office for the Arts 2021; Fforde et al. 2020; Pate 2008b).	some diseases are destructive (Roberts 2018).

Method	Destructive or Non-Destructive	Use/ Strengths	Limitations
		• Recorded information in museum documentation, other archives and published resources (such as diaries and letters) detailing specifically which skeletal element was donated, the number of remains taken and whether they had any unique anatomical features (such as pathologies, diseases, signs of trauma or fractures) can be utilised to identify particular remains and where they were originally located (Australian Government Office for the Arts 2021; Fforde et al. 2020; Pickering 2020; RRR 2020). • Can assist in identifying individual remains in co-mingled remains collections (Fforde et al. 2020; RRR 2020). • May identify genetic traits in ancestral remains, such as small reoccurring	

Method	Destructive or Non-Destructive	Use/ Strengths	Limitations
		features, including 'a bump or crease' (Pickering 2020:70) in a particular element of the skeleton or a particular tooth characteristic, such as shovel-shaped incisors, can be indicative of a specific cultural population (Pickering 2020).	
aDNA Analysis	Destructive	• Genetic testing of ancient DNA (aDNA) (Pickering 2020). • Potential to 'identify the degree of likelihood of biological relatedness between living people and an ancestral remain' (Fforde et al. 2020:555), or between two sets of ancestral remains (Australian Government 2018; Australian Government Office for the Arts 2021; Pate 2008b; Pickering 2020). • Utilised to potentially determine biological sex in juveniles,	• Expensive (Fforde et al. 2020; Morris 2007). • Destructive process (Australian Government 2018; Fforde et al. 2020). • Not always successful and has a high risk of failure (Australian Government 2018; Fforde et al. 2020; Harris 2007). • Results may not reflect a connection between living people and an ancestral remain but does not mean they are not related (Pickering 2020).

Method	Destructive or Non-Destructive	Use/ Strengths	Limitations
		fragmented and cremated remains, relationships between past individuals, migration and pathologies (Australian Government 2018; Pate 2008b; Roberts 2018; 2019; Squires et al. 2019; White et al. 2012). • Advances in minimal sampling methods and non-destructive imaging methods, such as CT scanning, are reducing the amount of damage to remains (Fforde et al. 2020; Roberts 2019; Squires et al. 2019; Weiss and Springer 2020). • Potential for contamination of DNA is reduced if extracted during excavation of remains (Roberts 2018). • New advanced methods, such as Next Generation Sequencing (NGS), are assisting in more data being extracted from samples and for	• Concerned with biological identity and does not recognise social or cultural affinity (such as adoptions, inheritances, successions, rights bestowals, travel movements, displacements or warfare) (Collard et al. 2019; Fforde et al. 2020; 2021; Pickering 2020; RRR 2020; Weisse 2021b). • Results dependent on quality of sample taken and age of remains, as aDNA deteriorates over time (Collard et al. 2019; Fforde et al. 2020; Pate 2008b; Pickering 2020; RRR 2020; Squires et al. 2019; White et al. 2012). • Does not determine geographical location from which remains were taken, which is needed for Australian provenancing (Fforde et al. 2020). • Potential of DNA contamination in institutional

Method	Destructive or Non-Destructive	Use/ Strengths	Limitations
		identifying contaminated DNA (Australian Government 2018; Roberts 2018; Squires et al. 2019). • Data sovereignty and ownership of samples are required to be in community control (Pickering 2020; RRR 2020). • Recommended Australian based ethical genetic investigation services of the National Centre for Indigenous Genomics, located at the Australian National University, Canberra (NCIG 2018; 2018b; Pickering 2020).	collections (Australian Government 2018; Morris 2007; Pate 2008b; Roberts 2018; Squires et al. 2019; White et al. 2012). • 'Very little [research undertaken] to understand the full impact of its application in the area of repatriation' (Pickering 2020:71). • Need for comparative samples from living community members for testing purposes (Australian Government 2018; Clegg 2020; Pickering 2020). • A reference map for all of Australia has not yet been created to help reference data collected using this method (Australian Government Office for the Arts 2021).
Isotopic Analysis	Destructive	• 'Has potential to associate an ancestral remain with the geographical area that the person lived in' (Fforde et al. 2020:557).	• Errors in nitrogen and carbon isotopic data can occur with individuals who consumed higher amounts of freshwater fish

Method	Destructive or Non-Destructive	Use/ Strengths	Limitations
		• 'Can be used to show where we grew up, where we lived for the last few years [10 years before death] and the sort of food in our diet, which can… show the region we live[d] in' (Clegg 2020:131). • Useful method for Australian provenancing of ancestral remains as identifies geographical place and not biological ancestry of remains (Fforde et al. 2020; Weisse 2021b). • Strontium isotopes are found in all rock types and as they weather, the strontium is then absorbed into the soil, which is taken up by plants, water and animals, which in turn, are consumed by humans and therefore, strontium of a particular geographical area is transferred to ancestral remains teeth and bones	(Owen et al. 2017; Squires et al. 2019). • Errors in nitrogen isotopic data can occur with breastfed infants (Larsen 2015; Owen and Casey 2017; Squires et al. 2019). • Oxygen isotopic data can be affected by weaning of infants or by consuming of boiled water (Squires et al. 2019). • Results can be affected by deterioration or decay of isotopes over time (Larsen 2015). • Has not been widely utilised to provenance ancestral remains in repatriation cases and thus, it is difficult to determine its usefulness at present (Fforde et al. 2020), most commonly utilised in paleodietary and human migratory studies (Fforde et al. 2020; Larsen 2015; Owen and Casey 2017; Squires et al.

Method	Destructive or Non-Destructive	Use/ Strengths	Limitations
		(Fforde et al. 2020; Larsen 2015; Owen and Casey 2017; Pate 2008; 2008b; Squires et al. 2019; Westaway et al. 2004). • Use of carbon and nitrogen isotopes in bones and teeth can assist in determining both the short-term and long-term diets of past individuals (Pate 2008; 2008b; Roberts 2018; Schrader 2019; Squires et al. 2019), with carbon isotopic analysis helping to differentiate between freshwater, marine and terrestrial diets (Larsen 2015; Owen et al. 2017; Pate 2008; 2008b; Roberts 2018), and nitrogen isotopic analysis also assisting in differentiating between terrestrial and marine diets (Larsen 2015; Owen et al. 2017; Pate 2008; 2008b; Roberts 2018).	2019; White et al. 2012). • Samples taken from bones and teeth is a destructive process (Fforde et al. 2020; RRR 2020; Squires et al. 2019). • A reference map for all of Australia has not yet been created to help reference data collected using this method (Collard et al. 2019; Fforde et al. 2020; Pickering 2020; RRR 2020). • Expensive (Fforde et al. 2020; Pickering 2020).

Method	Destructive or Non-Destructive	Use/ Strengths	Limitations
		• Use of oxygen isotopic analysis can assist in determining the climate and drinking water of a specific geographic location (Larsen 2015; Owen and Casey 2017; Pate 2008; 2008b; Roberts 2018; Squires et al. 2019). • Use of a 'combination of three or more different isotopes [is recommended] in order to improve the reliability' (Pate 2008b:504) of the data gathered using this method. • Isotopic analysis could be utilised in conjunction with archival research information to narrow down provenance information by ruling out conflicting geographical locations (Fforde et al. 2020; Pickering 2020; Squires et al. 2019). • Can be utilised in conjunction with	

Method	Destructive or Non-Destructive	Use/ Strengths	Limitations
		other methods, such as aDNA, metric and non-metric osteological analyses to compare data results and assist in provenancing ancestral remains (Adams et al. 2021; Owen et al. 2017; Pate et al. 2002). • This method is best used 'when a limited number of possible localities' (Westaway et al. 2004:94) are being compared for provenancing (Weisse 2021b). • Utilisation of isotopic data from provenanced ancestral remains from known archaeological sites can assist in providing isotopic information for various geographic regions for unprovenanced remains in museum collections (Pate 2008).	
Radiocarbon Dating Analysis	Destructive	• Utilised to determine a time range since death of remains	• Hard to obtain data from samples of past individuals with high

Method	Destructive or Non-Destructive	Use/ Strengths	Limitations
		from the rate of decay of ^{14}C, which is absorbed into a past individual's bones during their lifetime and stops after death (Roberts 2018). • Advances in minimal sampling methods are reducing the damage to remains (Roberts 2018).	marine diets (Roberts 2018). • Date range provided and not a specific date (Squires et al. 2019). • Only able to assist in biologically identifying ancestral remains for cultural affiliation purposes, as this method is unable to assist in locating geographical provenance of ancestral remains, which is needed for Australian provenancing (Weisse 2021b).
Histological Analysis	Destructive and Non-Destructive	• 'The study of microscopic structure of the tissues of the body' (Roberts 2018:198), can determine age at death using bones and teeth, diseases and past diets (Roberts 2018; Squires et al. 2019). • Cross-sections of bones can now be captured using CT scanning, which avoids destruction to the ancestral remains	• Expensive process (Roberts 2018). • Destructive sampling process, as cross-sections of bones are needed for this method (Roberts 2018).

Method	Destructive or Non-Destructive	Use/ Strengths	Limitations
		(Roberts 2019), however, this is not applicable for all sampling techniques for this method.	
Protein Analysis	Destructive	• Protein in peptides extracted from tooth enamel can assist in estimating the sex of remains, particularly juvenile remains (Squires et al. 2019).	• An emerging field (Squires et al. 2019). • Destructive sampling process (Squires et al. 2019).
Dental Calculus Analysis	Non-destructive	• Dental plaque on the surface of teeth can be scrapped away for sampling (Roberts 2018). • Can assist in determining the diet of past individuals from ancestral remains' teeth (Roberts 2018; Schrader 2019; White et al. 2012). • Small amounts of DNA can be preserved in the calculus (Natural History Museum 2019; Pate et al. 2020; Squires et al. 2019). • Can preserve evidence of pathogens, which can assist in providing	

Method	Destructive or Non-Destructive	Use/ Strengths	Limitations
		information about past diseases (Larsen 2015; Squires et al. 2019). • Use of DNA analysis to examine the dental calculus (Roberts 2018). • Can be utilised alongside isotope analysis to gather more information about individuals past diets (Schrader 2019). • Process is less destructive than sampling teeth or bones directly (Squires et al. 2019).	

Appendix 5

Non-bioarchaeological based methods for provenancing ancestral remains

Method	Destructive or Non-Destructive	Use/ Strengths	Limitations
Archival Research	Non-destructive	• This method utilises museum documentation, (such as accession registers, catalogues, exhibition records and donor correspondence), archives, published resources associated with donors and their collecting activities (such as diaries, journals and correspondence), government records, newspapers, photographs, drawings and archaeological publications, journals and site reports (Australian Government Office for the Arts 2021; Fforde et al. 2020; Pickering 2020). • Frequently utilised as first step in provenancing remains (Fforde et al. 2020; Pate et al. 2002).	

		• Successful method in locating local, regional and national remains in collections, establish identity of known individuals or original burial locations (Fforde et al. 2020; Roginski 2020). • Can be utilised to show discrepancies in the number of bones of one individual in a museum today, with the number of bones sent to the institution in the past (Fforde et al. 2020). • Non-destructive method (Fforde et al. 2020).	
Soil Analysis	Non-destructive	• Analysis of minerals and chemicals in soils attached to ancestral remains to compare with soils at known locations could assist in provenancing ancestral remains (Australian Government Office for the Arts 2021; Brown 2006; Pickering 2020; Pirrie et al. 2013; 2017; RRR 2020; Warren et al. 2013). • Loose soil found in the storage containers in which ancestral remains have been	• A reference map for all of Australia is needed to help reference data collected using this method (Pirrie et al. 2017; Weisse 2021b). • A sufficient quantity of soil is needed for sampling purposes, which might not be applicable for all ancestral remains (Weisse 2021b). • Most ancestral remains that are or have been in museum collections tend to be clean of soil (Weisse 2021b).

		held (Patyra Kay, pers. comm. 2021) can also be analysed to assist in provenancing ancestral remains (Weisse 2021b). • This method can be utilised as a deductive provenancing tool, to rule out particular geographical locations for ancestral remains (Australian Government Office for the Arts 2021; Pirrie et al. 2017). • Soil attached to remains in collections can utilise strontium isotope analysis to determine original geographical location of ancestral remains (Fforde et al. 2020). • Can be utilised in conjunction with other methods to compare data results and assist in reducing the number of focus areas to target (Pirrie et al. 2017).	
UV Light or Infrared Photography	Non-destructive	• UV (ultraviolet) or infrared lights can assist in clarifying 'faded writing, identify relevant markings and, in some cases, revel writing that is completely invisible	• Can be culturally inappropriate for some indigenous cultures and communities must be consulted and provide consent prior to use (Cressida Fforde, pers. comm. 2021;

		under natural light' (RRR 2020:11). • Utilised to identify markings, catalogue numbers, names of donors or collectors or the name of the individual on remains, that have faded or disappeared over time, which can be compared with archival information or museum documentation to determine provenance (Australian Government Office for the Arts 2021; Clegg 2020; Fforde et al. 2020; Pickering 2020; RRR 2020). • Utilised to identify associated tags or labels with remains that have faded or disappeared over time, which can be compared with information in museum documentation to assist in provenancing (Australian Government Office for the Arts 2021; Fforde et al. 2020; RRR 2020). • Information can include 'provenance information, history	Fforde et al. 2020; RRR 2020).

		of the deceased, the name of the donor and/or catalogue number(s)' (RRR 2020:11). • Non-destructive method (Australian Government Office for the Arts 2021; Fforde et al. 2020).	
Traditional Indigenous Knowledge	Non-destructive	• Indigenous knowledge 'includes traditional cultural expression such as the songs, dances, stories and languages… and cultural and spiritual knowledge and practices' (Janke and Sentina 2018:17). • This method can include 'oral tradition of storytelling [oral histories]… spiritual and kinship knowledge and connections' (Weisse 2021:234). • Utilised to establish cultural or ancestral relationships between ancestral remains and living people (Loveless and Linton 2019). • Could be utilised in conjunction with other provenancing methods (Michael Pickering, pers. comm. 2021; Weisse 2021; 2021b).	• Not always accepted by institutions as a method of provenancing ancestral remains (Janke and Company 2018b; Weisse 2021; 2021b). • Only just starting to be incorporated and accepted as a provenancing method, such as its employment in the Queensland Museum (Weisse 2021; 2021b). • This method 'maintains a complementary rather than dominant position in research' (Weisse 2021b:84).

		• Communities have a proactive role in provenancing their ancestral remains (Weisse 2021; 2021b). • Non-invasive method to assist provenancing ancestral remains (Weisse 2021b).	

Appendix 6

Content removed for privacy reasons

Letter from Traditional Owner Colin Cook to archaeologist Graeme Pretty in support of and consent given for the research conducted by Donald Pate on ancestral remains from Roonka, South Australia in 1987 (Donald Pate, pers. comm. 2022).

Appendix 7

Content removed for privacy reasons

Letter from Traditional Owner Colin Cook to archaeologist Graeme Pretty in support of and consent given for the research conducted by Donald Pate on ancestral remains from Roonka, South Australia in 1989 (Donald Pate, pers. comm. 2022).