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Faculty of Arts and Humanities

Archaeology

Dis/ability stories from Roman Dorset: an integrated osteobiography approach

by

Stephanie Susanne Evelyn Wright

ORCID ID https://orcid.org/0000-0003-0964-5078

Thesis for the degree of Doctor of Philosophy

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Abstract

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The primary aim of this study is to develop and demonstrate an approach through which human skeletal remains can be used to explore impairment and disability in the past in a theoretically informed way. This study addresses a frequent trope in osteoarchaeological publications in which unusual palaeopathological specimens are investigated as isolated case studies, which are often decontextualised and uncritically presumptive about the resulting disability (Dettwyler 1991). This thesis presents the integrated osteobiography approach; a form of microhistory which aims to develop an understanding of a life experience using osteological data integrated and contextualised with any and all available clinical, historical and archaeological data.

The dis/ability as a continuum perspective provided a key theoretical underpinning of the thesis. This view of disability understands that everyone has an aspect of their identity related to their body and its ability to perform as expected and desired in their social and physical environment. This view challenges the commonly held attitude that disability affects a minority of people. The dis/ability as a continuum approach also helps visualise bodies as ever-changing entities, the abilities of which can vary throughout a lifetime (Zakrzewski et al. 2017). The approach also encourages a broader perspective of what is considered a possible impairment, helping to prevent our modern preconceptions of what an impairment is affect our view of the past.

Feminist theory has also been highly influential to this thesis, from influencing the theoretical foundation to the communication style. Karen Barad's (2007) concept of 'entanglement', helps visualise dis/ability as one aspect of an individual's personhood which is interacting and mutually impacting other aspects, such as age and gender. Feminist scholarship has also influenced the author's use of a situated knowledge approach, which encourages openness and honesty about a

researcher's motivations and experiences surrounding their subject matter, and reflects on how this may impact the study.

This integrated osteobiography approach is applied to the 3rd-4th century cemetery site of Alington Avenue, Dorset, UK, from which 37 skeletons form the dataset. Osteological, mortuary, archaeological and clinical insights are melded together to create the osteobiography accounts. Three of the osteobiographies are selected for inclusion in the main thesis for the stories they can tell. AA766 is a skeleton of a biological female which exhibited Langer type mesomelic dwarfism. This skeleton provided the unusual opportunity to track the well-documented development of an impairment alongside the known life course stages for a Romano-British female, as well as consider the experience of a lived environment from a shorter stature viewpoint. AA852 acquired a trauma necessitating an arm amputation shortly before death. For this case, the concept of the 'disabled corpse' was coined, exploring the impact of acquired bodily difference on the burying community and their behaviour. Finally, through skeleton AA210, a more familiar set of palaeopathology is examined and the impact of older age on dis/ability is considered. This case study fulfils the desire to explore the impact of more ordinary palaeopathology alongside the extraordinary, and assesses the potential issues surrounding not being recognised as different or disabled.

Partly to help integrate the different data set types and partly to help improve accessibility of the study, three fictive narratives were written, portraying the burial of AA852 at Alington Avenue. These fictive narratives help explore experience of the palaeopathology identified with proper citation in the form of footnotes.

The thesis demonstrates how the integrated osteobiography approach can be used to explore dis/ability in the past in a theoretically nuanced manner. Osteobiography has been argued to offer a more democratic vision of the past (Robb et al. 2019). This thesis hopes to contribute to this democratic vision, not only in the people who are studied, but also in the readership encouraged by the more accessible format.

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Research Thesis: Declaration of Authorship

Print name: Stephanie Susanne Evelyn Wright

Title of thesis: Dis/ability stories from Roman Dorset: an integrated osteobiography approach

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
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Evelyn-Wright, S. S. (2019) Dis/ability in Roman Dorset – an integrated osteobiography approach. IN Mounsey, C. and Booth, S. eds. *Bodies of Information: Reading the Variable Body from Roman Britain to Hip Hop*. New York: Routledge. pp17-38.

Signature: Date: 14/12/21

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Finally, this thesis is dedicated to my much missed Grandma, Mrs Winifred Catherine Cadman.

Chapter 1 Introduction

Figure 1.1 - 'Meet the Superhumans' billboard from Walsall Road in Perry Barr. Source: Elliot Brown (2012) (CC-BY-2.0)

As part of the media campaign promoting the 2012 Paralympic games in London, we were encouraged to '*Meet the Superhumans*' (figure 1.1). Partially as a response to such campaigns, disability is more at the forefront of the public psyche and political debate. This campaign falls under the trope that celebrates 'disabled heroes'. These are people, usually with visible impairments, who defy the odds to accomplish things that are unusual for people who are disabled and non-disabled alike (Wendell 1996). Such stories are intended to inspire people and, no doubt, aim to redress other omnipresent and inherently negative themes, such as suffering, which are ubiquitous within discourses about disability. Such narratives, however, create the impression that the body can be overcome, and contribute to a sense that people with disabilities are something other and extraordinary (Wendell 1996).

Extraordinary human bodies fascinate people, past and present. The Victorian era saw the popularity peak of the freak show, where people with physical and behavioural differences were exhibited for public entertainment (Craton 2009). The public display of different bodies, in fact, has ancient origins; Siamese twins, in the 10th century AD, were reported to have travelled widely, exhibiting their unique body (Laes 2011a). Slaves with physical disabilities were highly prized

amongst the Roman elites of the early imperial period, so much so that, so called, 'monster markets' specialised in their sale, and some slaves were reported to have been deliberately injured to feed consumer demand (Trentin 2011). Today, the popularity of television shows like '*Embarrassing Bodies*' and '*The Undateables*' reveal that the desire to see physical illness and disability still remains (Byatt 2015).

Studies of disability in the Roman past also have focused on the extraordinary. Classical scholarship is perhaps irrevocably biased in its subject matter, reliant on the judgement of past writers and artists as to what was noteworthy, who were mostly from the elite classes and based in the central Mediterranean (Southwell-Wright 2013). Christian Laes (2020) has however demonstrated that Roman writers did recognise the difference between short-term illness and conditions that present long-term changes to a person's physical or mental abilities (see section 3.2). So called 'deviant' burial analysis again highlights the anomalous, in this case unusual burial rites, which are often explained as resulting from societal reactions to an aspect of the interred individual's identity, such as disability (Murphy 2008). This type of analysis, although valuable, offers a snapshot of a society's reaction to a person at a very emotive and exceptional time and place; how this relates to their everyday life, however, is not well understood. Osteoarchaeological study of impairment and disability has also maintained this emphasis on the extraordinary. For example, bioarchaeology of care studies focus on single individuals, with severe impairments, to glean insight into past care behaviour (Tilley 2015a). Such case studies provide interesting stories; however, the very nature of these extraordinary narratives tend to give the impression that impairment and disability is out of the ordinary, and feed the assumption that people with disabilities tended not to have survived in pre-industrial societies (Battles 2011).

Perhaps as the result of the association with the extraordinary, disability is seen as a minority identity trait, to such an extent that some archaeological studies of identity do not include a mention of the attribute (see Díaz-Andreu et al. 2005; Gardner 2007). Yet impairment is something that can be acquired and experienced by anyone, at any stage of life (Cross 2007). A government survey from 2012/13 (Department for Work and Pensions 2014: 3) states that 19% of the UK's population have a disability. This suggests that experience of disability, today, either directly or indirectly, is not extraordinary, but very much part of everyday life. Although such statistics for the past will always be a desideratum, there is no reason why a broadly similar prevalence would not have existed, because whilst modern medicine allows people to survive when historically they would not have, it also means that certain injuries and diseases would have had a more profound impact then than they do in today's Western world.

The social model of disability has been widely adopted by policy makers and academics today. Opposing the view of the medical model that describes disability as primarily a medical phenomenon which needs to be fixed or suffered, the social model emphasises the role of the society in creating a world that is inaccessible to a person with a different physicality (Cross 2007). Disability is the result of an interplay between the body and society. The medical and social models of disability focus on one aspect of this dynamic, to the neglect of the other. In emphasising the role of society, the social model tends to render the disabled person as passive, overlooking the impact of living in a body with an impairment and how this varies on an individual basis.

The social model essentially excludes the body from discussions of disability. Similarly, human bodies are also marginalised within archaeology; skeletons are separated from their contexts and analysed in its own distinct sphere of osteology (Battles 2011). This sub-division of subject matter has led to general polarising of thought. The body is seen as purely a source of biological data, in contrast to the mortuary context that provides the social dimension. By extension, in studies of disability in the past, it is believed that skeletons can offer little beyond diagnosis from palaeopathology. As a result, bioarchaeological studies only venture into discussions of impairment and disability in the most extreme, palaeopathological cases, where care can definitively be inferred, maintaining the emphasis on the extraordinary. It is perhaps this emphasis on the extraordinary that has led to the viewpoint of some historians that disability history is a niche branch of historical enquiry with limited scope meant to produce knowledge on a marginalised social group (Lingelbach and Waldschmidt 2017). A contrary opinion states that disability is a new universal category of historiographical research that can fundamentally change general approaches to the study of the past (Lingelbach and Waldschmidt 2017). This latter approach explores disability as a sociocultural phenomenon, which varies from culture to culture, enabling us to reflect on entire societies through a new lens (Frohne and Nolte 2017).

There are, therefore, two broad aims underpinning this thesis, which are: firstly, to demonstrate how skeletal remains can contribute to a theoretically informed understanding of disability in the past, and secondly, to shift emphasis to include the ordinary and everyday aspects of disability. To do this, a different perspective of disability is postulated, signified by the notation 'dis/ability'. 'Dis/ability' refers to the continuum conceptualisation of disability, as a universal identity trait, that reflects an individual's relationship with their body's ability to perform as expected within their own social context. This perspective maintains, at its core, the role of society in disability, the fundamental principle of the social model; however, this viewpoint places everyone on their own spectrum of dis/ability, their position on which varies over their lifetime, as the body and social expectations change (Zakrzewski et al. 2017). The continuum approach systematically

applies a gender and life course perspective, acknowledging that dis/ability experience is strongly affected by other identity traits (Frohne and Nolte 2017). Gender and age are two such aspects of identity, the biological traits of which can be identified in skeletal remains. The continuum model keeps the idea of disability as a dynamic, changeable entity at its centre, challenging established binary divisions between disabled and non-disabled people. This makes disability relevant, not only to people perceived as disabled now, but to everyone. Adopting this attitude also allows researchers to avoid being influenced by their own thoughts on what disability can be, which may or may not be relevant to the Roman past.

Throughout this thesis, I use a biocultural approach to explore the direct and indirect ramifications that impairment had on an individual's experiences of life and death in later Roman Dorset. More specifically, this study focuses on the osteoarchaeological data obtained from the 3rd-4th century AD assemblage from the Alington Avenue cemetery in Dorset (Davies et al. 2002.) The project develops and implements an integrated osteobiographical approach to discuss a range of impairments in the osteological record, and then relate them to the context of Roman Dorset. This thesis ultimately aims to demonstrate effective bridging between scientific and humanities research, taking osteological analysis out of its academic ghetto. The proposed integrated osteobiographical approach brings together different types of evidence, and disparate perspectives, in order to establish a well-rounded discussion of the experiences of people with impairments. The issues briefly outlined above have led to the following research questions which this thesis addresses:

- How did a person's dis/ability identity affect their experience in life in Roman Dorset?
- How far does the mortuary rite reflect the day-to-day experience of an individual from Roman Dorset?
- Is the term 'dis/ability' appropriate to use when discussing impairment and society in Roman discourse?
- How helpful is the integrated osteobiography method when studying dis/ability in a Roman setting?

Feminist scholarship has proven to have had a profound influence on this project, impacting the theoretical underpinning and communication styles used throughout this thesis. Donna Haraway (1991) advocates for the 'situated knowledge' approach, which encourages researchers to be open about their partiality in research undertaken, particularly in relation to their background and motivation. For example, Lorna Tilley (2015a) has been open about her time working as a nurse, which evidently influenced, not only the selection of care as a subject to study in the past, but also the lens with which she approached the topic. My own background has greatly influenced

this research, especially its selection, and therefore it is important to reflect and be clear about this from the outset.

My brother has a learning disability. From my earliest recollection, this fact has shaped my existence, having been bought up surrounded by people with disabilities and their families. I have been lucky enough to also work with children and adults with disabilities in both academic and non-academic contexts. Instead of providing clinical care, as in Tilley's background, my work tended more towards providing support to individuals with disabilities and their families, to enable them to thrive in society. This background is heavily reflected through my stance and interest in this project, for example, my tendency to emphasise the individual and their biography, no doubt reflects my own experiences seeing my brother grow and change profoundly over the course of his life.

In studies of minority or oppressed cultures, the academic world has emphasised the need for finding the right voice to tell the story. Disability scholarship is no different, calling for more disabled voices to be heard (Stone and Priestley 1996; Kitchin 2000). This was a concern of mine from the outset of this study. What right do I have to study disability in the past, being someone who is not themselves disabled? Today the anthropology of disability is most likely to he studied by anthropologists with disabilities. Heather Battles (2011: 112), however, states that

'Just as anthropologists without disabilities should not be dissuaded from studying disability, neither should anthropologists with disabilities be especially expected to do so.'

I have become more and more confident in the value of my voice within disability studies; my close association offers a very individualistic, personal point of view, but my employment has made me aware that experiences greatly vary.

The structure of this thesis is split into eight broad chapters. Chapters two and three offers a comprehensive literature review, including: discussion of disability terminology and models, exploration of key themes within disability studies in the Roman past, such as infanticide, and description of the influences of feminist scholarship within this thesis. The fourth and fifth chapters delineate the methods and materials used in the integrated osteobiography approach, including: description and evaluation of the osteological and mortuary analysis used, and background information about the cemetery site of Alington Avenue. Chapter six presents contextual data obtained through the osteological analysis of the cemetery population from Alington Avenue. Chapter seven contains the osteobiographies of three individuals from Alington Avenue, accompanied by three fictive narratives, depicting a burial scene from the site, as experienced by the biographed individuals. The penultimate chapter addresses the first three

research questions. The conclusion chapter offers a final reflection on the thesis, offering an evaluation of the integrated osteobiography approach, and ideas for future research. Finally, the appendices present the original data collection sheets and resulting catalogues.

Chapter 2 Theoretical background

Chapters two and three outline the scholarly background that has shaped the trajectory of this work. This chapter first clarifies the important terminology used throughout the study, proceeding then to describe and evaluate the disability and feminist theories that underpin the entire thesis. The purpose of this chapter, alongside chapter three, is to give the reader an insight into the hinterland of the thesis, to explain the logic behind the direction chosen in this study, and to demonstrate how this has shaped the methodology and outlook for the entire project.

2.1 Disability definitions and theory

The terms 'impairment' and 'disability' feature heavily throughout this thesis and, as they are subject to varied interpretation, the definitions accepted in this research require clarification.

The Equality Act (2010) in British law names disability as one of the nine characteristics that are protected against institutional discrimination. The law offers a relatively simplistic definition stating that a person has a disability if they have a physical or mental impairment that has a substantial and long-term (over a year) adverse effect on their ability to perform normal, day-to-day activities (such as eating, washing etc.). In contrast, the World Health Organisation (2011) offers a more complex definition, describing disability as an umbrella term, covering problems with human functioning, which are categorised into three interconnected areas:

- Impairments – alterations to body structure or problems in body function
- Activity limitations – difficulties in executing activities
- Participation restrictions – problems with involvement in any area of life.

Disability, therefore, is a complex phenomenon, reflecting interactions between elements of an individual's body and features of the society in which they live (World Health Organisation 2011).

These two contrasting definitions are arguably representative of the medical and social models of disability. The medical model emphasises the 'suffering' individual, viewing disability as a personal, medical tragedy, which one should aim to cure. Conversely, the social model highlights the role of the society, shifting the responsibility of inclusion and adaptation from the individual with an impairment to the social environment (Cross 2007: 181-182).

The distinction made between the terms 'impairment' and 'disability' echoes that between the two models described above. An 'impairment' refers to the biomedical condition, which can be physical, cognitive, mental, sensory, emotional, developmental or a combination of these.

Impairments can be described as 'congenital' (a condition present from birth) or 'acquired' (a condition that develops later in life, for example, as the result of a trauma). 'Disability' describes the social phenomenon, illustrating the relationship between society and individuals with impairments (Knudson and Stojanowski 2008; Metzler 2006). The division between 'impairment' and 'disability' has led to 'impairment' being associated with the body, and 'disability' with the social environment, giving the false perception that the body cannot offer any evidence of the social ramifications of impairment (Gowland 2004). Although the distinction between 'impairment' and 'disability' is a useful one, which will be maintained throughout this thesis, I aim to demonstrate that skeletal remains can be used as more than just a biological catalogue.

The social model of disability has been widely accepted in academia (Shakespeare and Watson 1997). The model highlights the role of the social context in the creation and maintenance of disabled identity. For example, dyslexia has only relatively recently been recognised as an impairment, due to changes in the developed world's requirement that a population is literate, which consequently has disabled people with dyslexia (Cross 2007). In other words, it is not the impairment that has changed, but rather society's requirement of an individual with dyslexia. The social model, therefore, renders the impaired individual very passive throughout the discourse of their disability, as it does not take into account that to be disabled is a highly personal, lived experience, which can be altered by numerous factors, not least of which is an individual's ability/willingness to adapt (Battles 2011; Roberts 2011).

The models discussed so far tend to categorise the disabled as a distinctive, opposing group to the non-disabled. This can lead to the illusion that the identity trait is static. In reality, an individual can acquire a disability later in life, or adaptations can be made that can diminish some of the effects of an impairment. To combat this static perspective of disability, it has been suggested that the acronym 'TAB', short for 'Temporarily Able-Bodied', replaces the term 'non-disabled' (Battles 2011). For the purposes of this project, the phrase 'non-disabled' is kept, as the more recognisable expression; instead, this thesis adopts the dis/ability continuum model. This model understands that **everyone** has an aspect of their identity related to their body's ability, which is visualised on a spectrum of dis/ability. A person's position on the spectrum varies over time, as their body changes and/or their social obligations and environment alters (Zakrzewski 2014; Zakrzewski et al. 2017). For example, a person who develops severe arthritis in their youth may be perceived as severely disabled, particularly as this would be quite unusual for someone their age. In older age, however, their impairment may fall into more expected norms and, consequentially the way they are perceived may alter (Gowland 2017a). The fluidity allowed in this model, demonstrates disability identity as a process, which can be renegotiated and changed. Additionally, this perspective shifts the focus on to an individual's ability, offering an inherently

more positive viewpoint. Finally, this model highlights the interaction between society, environment, and the individual experience which is crucial to understanding dis/ability.

In summary, I assert that the term 'impairment' refers to a long term, biomedical condition, whereas 'disability' relates to the relationship between the individual with an impairment and society. The continuum of dis/ability provides the theoretical stance which underpins the entire thesis, as it brings to the fore the roles both society and the individual play in the manifestation of dis/ability, and its inherently changeable nature.

2.2 Feminism and dis/ability

The distinction made between impairment and disability mirrors that made between sex and gender; impairment and sex referring to the biological state, whereas their counterparts define the social limitations and expectations imposed relating to those biological conditions (Garland-Thomson 1997). It was this interplay that initially prompted the exploration of feminist scholarship in relation to this project. It quickly became apparent that feminist perspectives can offer insight into many aspects of this research, from the theoretical underpinning and methodology, to the communication style. Feminist critiques, however, have not been explored much within archaeological studies of the Roman world (Revell 2010). This following section will review the key areas of this project that feminist scholarship has influenced and describe its application in this endeavour.

2.2.1 Is being a woman a disability?

Aristotle's infamous perspective of women, as mutilated or deformed men, is often quoted during a discussion of womanhood as a form of disability (Garland-Thomson 1997; 2002; 2005). Being female could be described as a 'social handicap', that is a disability not related to a biological impairment, but to a characteristic of a human body that is discriminated against as a result of sociological factors. This is a controversial notion, which, nevertheless may be an appropriate descriptor of the Roman past. The patriarchal nature of the Roman world, meant that someone's biological sex had a considerable impact upon their life course from the earliest stages, with even the naming ceremony taking place on either the eighth or ninth day after birth, depending on the sex of the infant (Harlow and Laurence 2002). This means that biological sex was influencing the child's life course long before many congenital impairments were recognisable. The legal codes of the Roman administration greatly impeded women's power; for example, they were unable to vote or hold civic magistracies (Vlahogiannis 1997). Women therefore were categorised, alongside

minors and people with specific impairments, as a group that required legal guardianship (Vlahogiannis 1997).

Biological sex had a considerable impact on the expectations that Roman society had of an individual. Stahl (2011) stated, rather simplistically, that men were evaluated on the basis of their military participation, whilst women were judged on their ability to bear children. Feminist studies into the past have challenged '…the modern Western folk notion that male is to female as production is to reproduction.' (Geller 2008). In other words, feminist scholarship question the sexual division of labours often applied on the past uncritically, which restricted women's roles and world views to themes of marriage and childbirth (Gellar 2008). Whilst bioarchaeological and ethnographic evidence does not support claims that sexual division of labour were an indisputable, universal fact (Gellar 2008), the available evidence for Roman Britain suggests that traditional gender roles were the norm (Allason-Jones 2005).

The discussion of femaleness as a disability highlights the issue of whether 'social handicaps' generally should be included in a study of disability. Christian Laes, (2008; 2018) on the one hand, argues that the inclusion of such categories risks the subject matter becoming unrecognisable as disabilities to modern readers. Alternatively, Rupert Breitwieser's (2012) collection of articles includes a chapter discussing left-handedness as a disability (Humer 2012), and a piece cataloguing disabling conditions, such as baldness, as identified through interpretation of Martial's Epigrams (Gevaert 2012). This highlights the differing perspective evident in the Roman world. For instance, baldness today can cause an individual psychological distress (Wells et al. 1995), but it is not viewed as a body malfunction. In the Roman past however, it seems to have been viewed as such. Julius Caesar, for example, was mocked for his baldness and went to great lengths to disguise it with a comb over and laurel wreath (Draycott 2018).

The view of dis/ability as a spectrum invites a broad outlook of what constitutes a dis/ability, and the elements that have impact upon a person's agency. It therefore seems necessary that these social handicaps are considered alongside impairments, when discussing the experience of dis/ability in the past. Impairment has sometimes been argued to be a social construction in itself (Tremain 2001). Thus, it could be argued that social handicaps are the epitome of a socially constructed impairment. Laes (2008: 117) alludes to a key pragmatic issue when he says that a broad definition of disability, one that includes social handicaps, would be '*unmanageable to researchers'*. When considering osteoarchaeological evidence, however, it seems sensible to incorporate the broadest definitions of disability possible, to make the most of an already incomplete data set (Roberts 2000). Therefore, the inclusion of social handicaps is a promising avenue to explore within the context of this project.

Women with disabilities in the modern world have notably different experiences to their non-disabled counterparts. For example, women have often felt pushed towards motherhood, whereas disabled women have been treated as child-like, and inappropriate or incapable parents, a notably different experience (Garland-Thomson 1997; 2005; Schriempf 2001). Garland-Thomson (2005: 1567) admits that –

'*Women with disabilities, even more intensely than women in general, have been cast in the collective cultural imagination as inferior, lacking, excessive, incapable, unfit and useless*.'

A 'double handicap', therefore, may be a useful viewpoint to adopt when thinking about women with disabilities in the Roman past. Women in the Roman world, who have been cited as defying gender norms, were often in otherwise privileged positions which helped them to, at the very least visibly, act differently. The most obvious examples of which would be the political machinations of the Empresses (Freisenbruch 2010). Status and financial resources are very pragmatic considerations but not irrelevant; Claudius became emperor not due to his abilities or disabilities but because of his sex, status and lineage. Double handicapped, although a decidedly negative view of disabled Roman women's lives, may prove an appropriate one. It is possible that the congregation of multiple identity attributes, deemed undesirable by Roman standards, proved an insurmountable agency barrier.

The problem with tackling the question of whether being a woman was a disability in the Roman world is that it neglects the consideration of men. There is a sense that some researchers, in Roman studies, have focused on studying women as a way of redressing the previous androcentrism of the disciplines (Pearce 2011a). This has resulted, however, in the study of Roman women becoming a ghetto topic within Roman academia generally (Revell 2010; Sherratt and Moore 2016). The gendered expectations in the Roman world meant that men and women experienced impairment and disability differently. For Roman women, an impairment's impact on their marriageability and fertility caused the most problems (Laes 2013; Stahl 2011). The Roman male life course had the potential to be more varied. A man could be simultaneously: the head of their household, slave owner, father, husband, magistrate, soldier etc. Consequently, there was more opportunity for men to fall short of their gender ideal (Gardner 1998; Harlow and Laurence 2002).

Due to this gender difference, it is hypothesised that impairment had more potential to impact a man's ability to fulfil social expectations. Roman art can be argued to reflect these differential attitudes towards gender. The majority of artistic renderings of hunchbacks are male, who are depicted hyper-phallic (Trentin 2015). In the study of the depictions of this specific impairment, it becomes clear that masculinity in the Roman world was defined by more than genitalia. The

overtly male symbolism is used to render the individual portrayed as ridiculous. The individuals represented are clearly biological males but not men; a male whose socially constructed gender is decidedly not masculine (Trentin 2015). Masculinity therefore was something to be achieved, not grown into; '*boys must be made men, while girls just become women*' (Williams 2010: 155).

It is clear that, in the context of disability in the Roman world, the interplay between gender and dis/ability identity is complicated and, has significant impact on a person's experience of their impairment. To focus solely on women's experiences neglects an important and interesting aspect of the narrative, that being the impact of an impairment on masculinity. To treat being female as a disability is a worthwhile thought exercise, as it affords a different lens through which to view the evidence. From an osteoarchaeological point of view, sexing adult skeletal remains is relatively easily and accurately achieved (Meindl et al. 1985; Molleson and Cox 1993). Aristotle's view of a zoological hierarchy, with men at the pinnacle and women on the first step along the road to deformity, is strikingly reminiscent of the view of dis/ability as a continuum (Garland 2010). Yet, in treating female-ness as a disability, nuances specific to gender may be overlooked, of which one must remain aware.

2.2.2 Performativity and Agency

Judith Butler's (1993) concept of gender, as something that is performed rather than biologically innate, is a seminal idea within gender and feminist studies which has proved enduring. The concept of performativity states that norms manifest through repeated action and performance. These norms are produced through practice, as opposed to representation (Barad 2003). Agency is a term related to performance, in that it describes a person or thing's ability to act. For instance, the term would help describe someone's ability to defy or conform to gender expectations. Butler's (1993) original discussion of performance was related to gender but, it can equally be applied to disability.

Yvonne Marshall (2008) claims that it is easy to be seduced into thinking that history was inhabited by people involved in tightly regulated, gendered performances, as the ideals of the past are often more archaeologically visible through monumentality. Yet, what people claim they do, and what they do in practice is often quite different. The Roman Empire provides an obvious example for this. Impressive Roman ruins often preoccupy archaeological research, leading to the impression that these mostly urban-based experiences were a feature of the everyday for the majority of people living at this time, although this was not in fact the case (McCarthy 2013). The gender ideals presented in the Roman world are attested for in historical sources and regularly reasserted in urban spaces, which were developed to support its patriarchal society. The

experience of the architecture, therefore, differed greatly depending on gender. Certain spaces within the urban landscape was for the sole use of either men or women; for example, the senate house was exclusively for men, thereby reinforcing women's lack of political agency (Boatwright 2011). In practice, however, the vehement imposition of a norm can betray its vulnerability (Marshall 2008). Roman women, for example, have been demonstrated to have exercised political power (Bauman 1992). It is this nuance in the narrative that should entice feminist scholars to explore the Roman past for, as Marshall (2012) says, feminism celebrates variations and refuses a generalised account of the regulated process.

Karen Barad (2003; 2007) and Donna Haraway (1991; 2008) particularly emphasise the agency of non-human matter in performances; for example, in North American wedding ceremonies, an ideal wife is identified through her dress, not her biological features (Marshall 2008). The wedding is a ritualised performance, where a non-human actor (the dress) has a high level of agency, as it signals the identity of the individual wearing it as the bride. In a disability related example, in the 2010 TV drama 'The Silence', the lead character, Amelia, has a hearing impairment but, on one occasion explained a desire to not wear her hearing prosthetic as it makes her 'look deaf'. For Amelia, her deafness is not indicated through her inability to hear, but through the prosthetic. The discussion of non-human agency is nothing new. Alfred Gell (1998) designates these non-human actors as 'secondary' agents and humans as 'primary' agents, claiming that non-human actors require human involvement to be able to act. Barad (2003; 2007) and Haraway (1991) disagree with this, arguing that things are not waiting to be read, but are inherently agentive. This implies that the manifestation of meaning arises, not from the imposition of meaning by a singular and exclusively human subject, but from the nature of the interaction among all participants, of which the human is an option.

Karen Barad (2003; 2007) has built on these theoretical ideas with a concept that she coined 'Agential Realism', which she has described as a materialist, posthumanist reworking of performativity. Barad's theory (2007: 170), developed in the field of Quantum Physics, says

'Matter is a dynamic intra-active becoming that never sits still – an ongoing reconfiguring that exceeds any linear conception of dynamics in which effect follows cause end-on-end, and in which the global is a straightforward emanation outward of the local. Matter's dynamism is generative not merely in the sense of bringing new things into the world but in the sense of bringing forth new worlds, of engaging in an ongoing reconfiguring of the world. Bodies do not simply take their places in the world. They are not simply situated in, or located in, particular environments. Rather "environments" and "bodies" are intra-actively constituted. Bodies ("human", "environmental" or otherwise) are integral "parts" of, or dynamic reconfigurings of, what is.'

Barad's viewpoint rejects that anything has inherent qualities or boundaries. Instead, the attributes exhibited by an object, person, animal or thing are the result of that particular scenario, i.e. the result of that environment and that set of actors, human and non-human, interacting. An exemplar case exhibiting the fluidity of the boundaries between human and non-human actors, applicable to the context of disability discourse, comes from Donna Haraway (2008) who describes the life of her Father, a man who used crutches. Upon his death, Haraway (2008) reflected that she felt that her Father should have been cremated with his crutches. To her, the crutches had become part of the human man.

The potential agency of non-human materials should not be understated; however, it has sometimes been described as equal to human agency (see for example Marshall and Alberti 2014). This does not reflect the variability in agency the different materials manifest. For example, in the case of a human body, the agency of the dead corpse is very different to that of the living person. The corpse still exerts agency; it is still a dynamic entity that changes and can defy human intention (especially if you are trying to move a body with rigor mortis) but the agency is different and there is uneven potential of agency in the relationship. In the same way, non-human agency, such as in the form of an earthquake, despite all human endeavour can overpower human intervention. Interacting agencies therefore rarely represent an equal power relationship.

A key message in Barad's (2007) treatise is the ongoing changeability and dynamism of materials, whether human or not. Individual actors will already be changing on their own, and when different entities interact, the results of such an event, impact all actors involved. A helpful metaphor for this was the image of two stones being dropped into a pool simultaneously, side by side. The resulting ripples surrounding both stone drops, collide with and diffract from each other. They are two separate events which have a mutual impact on the other. A useful summary term for this confusing concept is that of 'entanglement', which aptly describes the chaotic image this theory casts of reality. For example, if we think of a woman in the Roman Empire, the woman and the empire were two unfixed entities. The woman was ageing and gaining new experiences and, therefore, changing day-by-day. The Roman Empire was simultaneously an ever-changing beast, varying in size, people involved with it etc. When these entities interacted, it took place between two already changing beings. The interaction to some extent impacted both parties, adding to their experiences in some way or another. If, the gendered expectations of the woman were reasserted, the woman could have accepted or opposed these expectations through her action. Her response will impact the Imperial environment in return by causing them to alter their actions, such as perhaps imposing gender norms more vehemently and so on. Garland-Thomson (2011) was inspired by Barad in the creation of her concept of 'misfits', through which she aimed to highlight that disability is not solely caused by either society or the impaired individual, but due

to the awkward juxtaposition between the two. In this way, neither the social impact nor the particularity of the individual body is overlooked.

The concept of agency is a key theme throughout this project. The discussion above is important to the overall thesis, as the understanding of material agency is crucial to archaeological thought, as, at the core of archaeology, is material evidence (Marshall and Alberti 2014). Emphasis is placed on the importance of interactions. The above discussion demonstrates the complexity of human and non-human interaction, and the concept of entanglement has notable application throughout this thesis, some more of which will be covered later in this chapter.

2.2.3 The body and embodiment

The human body offers an interesting example to consider within the theoretical backdrop Barad created (see discussion by Marshall and Alberti 2014). Much of feminist theory has been focused on the critique of the concepts of sex and gender, which have often been portrayed as opposing concepts. A problem arises, however, when you consider one and not the other. Many feminists emphasise the part that gender plays, ultimately concluding that biological sex should not matter. Yet the problem with this viewpoint is that it ignores the particularity of the body or, in other words, the reality of living with this biology. Compared with men, the biological reality of being a woman inherently involves periods of differential ability, for example, pregnancy removes women from working life for extended periods (Laes 2018). Offering an alternative, Barad (2007) retains the distinction between sex and gender, the former representing the biological condition, the latter the social aspects; however, the concepts are not dichotomous or opposing, but instead are two phenomena that interact with each other, sometimes in harmony and sometimes at odds.

The distinction between impairment and disability, as already mentioned, mirror sex and gender in their contrasting definitions, and disability activists have also downplayed the role of impairment in the experience of disability. This is problematic, however, as people with disabilities, with very different needs and abilities, are often clustered together in an ill-defined group (Scully 2012). The particularity of the bodies and experiences are not considered, which thus still leaves people with impairments, with difficulties of inclusion (Garland-Thomson 2011). As Jackie Scully (2012) says, this presents us with a theoretical bind, trying to create a narrative about disability that is not about inadequacy, but also accommodates the particularity of the body. Barad's viewpoint therefore can be used to aid the understanding of the interacting nature of impairment and disability, not as opposites, but as two entities which clash and interact (Garland-Thomson 2011). As Scully (2012) points out, trying to separate out the effects of impairment and disability is analytically tricky and, does not ultimately represent the complex

interweaving of the two aspects. Barad's (2007) theory allows the biological/natural and the social to be theorised together; an idea that has great potential within the context of this thesis.

Embodied experience of people with disabilities, particularly prosthesis-users, has been further explored through consideration of Donna Haraway's (1991) theorization of the Cyborg. Cyborg, a portmanteau term comprising of 'cybernetic' and 'organism', describes an entity which is neither human, animal or machine, but a hybrid of the organic and the technical (Haraway 1991; Reeve 2012; Sofaer 2006). The cyborg concept served to disrupt and destabilise existing binary oppositions between nature and machine, inside and outside, human and non-human (Haraway 1991; Sofaer 2006). Cyborg theory can help make sense of the lived experience of people with impairments who have intimate relationships with prosthetic devices such as wheelchairs, and prosthetic limbs (Reeve 2012). Prosthetics are often perceived as normalising a different body, but there is little consideration of the cultural and social implications of prosthetics or the lived experience of the prosthesis. For example, wearing a limb prosthetic can be associated with chafing which causes pain and soreness, access to prosthesis is dependent on economic resources and there are psycho-emotional barriers, such as staring, which affects the experience of using the device. Interestingly, Haraway, beyond a single mention (Haraway 1991: 178), does not discuss the idea that people who use prosthesis experience hybridization (Reeve 2012). This is despite the aforementioned description of her Father, a crutch-user, who she felt should have been buried with their mobility aids (Haraway 2008) This sentiment echoes this cyborg mentality of the person, if not explicitly labelling as such. Perhaps, the term cyborg was uncomfortable for her when applied to her own family members and indeed critiques have described the cyborg term as dehumanizing (Adams 2018). These kinds of lived experiences of prosthetics can be applied to examples in the past. For example, in the case of Marcus Sergius, an aristocratic veteran who lost his right hand in 218BC, who was reported to have had a prosthetic hand made of iron (Laes 2011a; 2018; Wirth 2010). Such a device has not been found in the archaeological record and would seem to be a rare object few could afford (Bliquez 1996). Additionally, being left-handed has been noted to be a source of mockery in Ancient Rome (Wirth 2010). The way to prevent mockery was to emphasis the heroic way the injury was obtained in war. This preferential treatment for the injuries of war veterans, seems to echo that described in the modern USA, with better prosthetic provisions afforded to the armed forces, compared to those lost through illness (Reeve 2012). These points serve to exemplify the cultural, social implications that contribute to the overall lived experience of prosthesis and how they can apply to a case in the past.

The concept of embodiment highlights the role of everyone's individual bodies, as the interface through which the world is interacted with and experienced. Related to this is the notion of phenomenology, which is the study of structures of consciousness as experiences from the first-

person point of view. Christopher Tilley (2004) was one of the first to adopt this perspective for use in the exploration of archaeological sites, suggesting, in essence, that by placing yourself within a landscape you can know what it was like to experience that place in the past. The potential of phenomenological analysis within Roman burial studies has been recognised, but as yet not fully utilised (Graham 2011). Scully (2012) points out that phenomenology tends to imagine the position of a non-disabled, usually male, adult human. The experience of landscape is changed significantly if, for example, looked at from the perspective of someone with mobility or sensorial impairments, as explored by situated theory analyses, which are set firmly from the position or 'sit-point' of a disabled woman subject (Garland-Thomson 2005).

The body cannot be universalised (Garland-Thomson 1997). The concept of phenomenology and embodiment does, however, offer insight into the past world, but it is important to remember that one cannot fully comprehend was it is like to be in another's shoes, as we cannot escape the impact of our own embodiment complete with its history. Living in Roman Britain was an embodied experience, the environment and society were sensed and mediated through the physical body (Gowland 2017b). On top of this, living with impairment alters the embodied experience, changing the interface through which the world is interacted with. Anthropological studies can offer useful insights into different embodiments, such as, David Howe's (2011) eloquent description of his experience as a Paralympian, which details his continual awareness of his impairment, body, and the ground surface whilst running. The potential of phenomenological analyses may seem limited with all the caveats detailed here, however, small insights can make a big difference, promoting empathy and understanding.

2.2.4 Feminism and method

In response to the question 'What does it mean to archaeology as a feminist? Alison Wylie (2007: 211-212) stipulated commitments shared by feminist archaeologists and scientists more broadly, amongst which was a commitment to reflexivity (Wylie 2007). Feminism often seems to be positioned as anti-science, due to feminist critique of the supposed objectivity of scientific methodologies (Haraway 1991). Objectivity and impartiality are striven for in scientific study, however, many feminists claim that true objectivity is impossible. Haraway (1991) offers an alternative to objectivity, that rejects the alienating distance that is usually prescribed by scientific methodology, that of 'situated knowledge'; an accountable approach which reports the position of the researcher within the study, in particular their background and motivation. As part of the introductory and conclusion chapters of this thesis, the situated knowledge of the author is described, these included details of the emotive nature of the subject matter, in relation to familial connections, as they were a key driver behind the project. This background undeniably

affected the selection of the topic for research and the narratives told, and therefore recognition and openness about these factors is essential.

The inclusion and integration of data sets and research from multiple disciplines is a key feature of this thesis. Latour (1993) has argued that modernity has created a distinction between nature and society, leading to the segregation of different research disciplines. Isaac Newton, for example, did not see his interests in mathematics, physics, philosophy and the occult as particularly separate areas of study, but today these are very different lines of enquiry. The problem with dividing subjects like this is that they develop their own languages, which hinders collaboration. Sub-division of subject matter presents a thorny issue for academics. Marshall (2012) provides a sustained critique of reductive categories of identity being adopted as proper objects of study in their own right. Third wave feminist regard identity as an intersection of age, race, ethnicity, sexual preference, religion, class, dis/ability and sex/gender (Gellar 2008) and utilise the concept of personhood to link all facets together (Marshall 2012). In a sense, this current thesis presents one such discussion of a single, reductive category. Concepts of personhood, and the aforementioned entanglement, present a more realistic vision of the complex and chaotic nature of humanity, however pragmatism often requires a smaller topic of discussion. Additionally, a number of elements of identity are not visible in osteoarchaeological evidence, although the entanglement of age, sex and dis/ability is explored in this thesis. Barad (2007) describes how a person or thing cannot be all versions of themselves at once. In different scenarios, a version of an actor performs and interacts. In an example that returns to a key idea within this thesis, Barad would perhaps interpret the disabled identity projected from a burial assemblage as the result of a very specific interaction, between people performing specific roles, that of mourners and the dead. The dead individual, in their manifestation as a corpse, is rendered more passive. As a result, their physicality perhaps comes to the fore, as the body is necessarily engaged with intimately to make it ready for burial. This could explain why disability seems to be highlighted in burial contexts, which may not reflect the lived realities of other less ritualised aspects of day-to-day life. A useful outlook, therefore, is that this project studies specifically the interactions that involve dis/ability related phenomenon, but these do not represent all interactions that were occurring.

Karen Barad (2007) describes research and experiments as dynamic reconfigurations of the world, that are designed with particular exclusionary boundaries, to produce specific types of results. In other words, studies are designed to find the answer to given questions and, to provide an answer in a certain way. So, if you design your project to research certain themes such as men, women, slaves in the past, you will probably find them, however, these may not be the best fit for the society under study, and, in fact, creates an image of a society that mirrors the western world

that we live in (Marshall 2008; 2012). For example, in osteology, biological sex determination is undertaken through assessment of specific sexually dimorphic traits (Sofaer 2006). According to Barad, this process is the apparatus which reconfigures the world to present data in a specific format, i.e. to categorise a skeleton as either a biological male or female. This assessment does not allow for a third sex or transgender individual to be identified, a phenomenon that has been discussed in the context of Roman Britain, in studies of the Catterick Gallus, an individual whose gender identity has been heavily debated (c.f. Pinto and Pinto 2013). As a trained osteoarchaeologist, it would be difficult to handle a skeleton and not determine the sex in the way one has been trained. Biological sex, as identified currently in osteoarchaeology, provides a strong starting point. In the Roman world, biological sex has been demonstrated to impact a person's experience from birth and, be something that remains influential throughout life (Harlow and Laurence 2002). The limitation of the methodology is something one must be aware of. Currently identifying alternative genders remains impossible.

Feminist applications within archaeological study have generally focused on small-scale assemblages (Jones and Alberti 2013), and this is an approach that has been adopted in this thesis. Initially a much larger project was proposed, however, the scale of the study became smaller over time, allowing further, more detailed exploration of individuals within their specific context. The small-scale microhistory seems particularly appropriate for a Romano-British study of disability, as the regional nature of the archaeology calls into question the validity of any country or region-wide analysis (Crummy and Eckardt 2003; Mattingly 2007). As Ellen Adams (2017: 195) argues, '*The social standing of disabled people in the ancient world is unclear, and it would be misleading to generalise across time and space*.' Assemblages under study by Jones and Alberti (2013) were not divided on ontological grounds; all artefact types were analysed together. Reconstructing the whole burial assemblage in the context of this study is more challenging as the material was divided after excavation; the skeletal remains were analysed but the grave goods were inaccessible. This division of the material, of course, has conservational practicalities that are justifiably prioritised, however, we have to remember that the ontological divisions we make on materials are modern constructions that are not necessarily applicable to the past. Physically studying all material from the site was not possible in this project, however the context under study was reconstructed, as much as possible, as a whole.

Feminism has also influenced the communication style used in this thesis. Some feminist academics have been experimenting with alternative writing styles which better suit stereotypically feminine character traits. Particularly inspiring is the use of fictive narratives to present archaeological discourse, such as those created by Janet Spector (1993), Laurie Wilkie (2003) and Alexis Boutin (2008; 2011; 2012; 2016; Boutin and Porter 2014). This method of

storytelling is powerful, providing a means of rehumanizing the past, encouraging empathy and rendering the material more accessible to both professional and non-professional audiences (Boutin 2016; 2019; Boutin and Paolucci Callahan 2019; Joyce 2002). Boutin (2011; 2012; 2016) has presented osteobiographies in the form of fictive narratives, which include stories concerning disability, demonstrating the effectiveness of the method in the context of osteoarchaeology.

A key concern that has been voiced is the presentation of such narratives as so called 'just so stories' (Boutin 2016). Additionally, Garland-Thomson (2005) has critiqued disability narratives in literature, arguing that certain tropes, such as disability as biomedical, sentimental, overcoming, catastrophe or abjection, are ever present. Disabled people are generally not presented as embodied characters that represent one example of the spectrum of human variation (Garland-Thomsen 2005). Some academics are reluctant to use fictive narratives, as the approach has been labelled naïve and lacking academic rigour (van Helden and Witcher 2019). Boutin's approach addresses these issues: the narrative is grounded in the skeletal data, with citations in the form of footnotes clearly signposting the evidence and justification for the interpretation given.

Boutin and Callahan (2019; Boutin 2019) described using fictive osteobiographical narratives as an explicit means by which to encourage empathy in readers. In this instance, empathy requires an individual to think the thoughts and feel the emotions of historical actors in order to understand their behaviour. In other words, to empathise one must imagine themselves in someone else's shoes (Harris 2010). Empathy in the study of the human past has been thought useful for both a research and outreach (Harris 2010). Empathy invoking fictive narratives concerning past peoples have, however, also been critiqued, from an ethical standpoint, as leading to experience appropriation and, distracting from the reader's complicity in a colonial system (van Helden and Witcher 2019). Additionally, Harris (2010) argues that empathising with people in the past is impossible, as their experiences, which might involve enjoying deadly gladiatorial games to name one example, are so alien to our own. Harris (2010: 14), instead of empathy, calls for the increased focus on emotions as an explanatory device of past actions, arguing that 'Historians need to study the emotions of the past not feel them'. The ethical issues are real concerns; however, they seem less important than the issue of promoting ideas of shared humanity. Harris (2010) also provides valid critiques of the use of empathy as a tool for historical interrogation, yet as Harris (2010: 12) also states 'There is after all a role for something like empathy in the historian's tool-kit'. It seems therefore that the issue is not with attempting to empathise with historical actors, but rather remaining aware of one's own limitations when doing so. Empathetic imagination must be continually coupled with critical analysis (Harris 2010).

Tom Shakespeare (1999: 100), in his article discussing the study of disability in archaeology, wrote '*A considerable degree of imagination is both required and to be avoided*', a caution towards using too much speculation when thinking about people with disabilities. Fictive writing, however, has proven to be especially influential and suitable for the present project. Initially, this style of writing was used to afford the author a different technique with which to address the challenge of integrating together the different data sets utilised. As Boutin (2012: 204) says

'The use of fictive narrative discourse allows me to weave together all of these contextual sources in a holistic way that enhances and enlarges the stories told by artefacts and skeletal remains.'

Secondly, the presentation of palaeopathological data in the form of fictive narrative allows the experience of palaeopathology to be explored more readily. The lived experience of skeletal lesions is often not discussed by researchers, due to the great variation of experiences people can have of the same lesion (Jurmain 1999; Kjellström 2010). Yet the use of fictive narrative, in these instances, means that an experiential and emotional point of view can be explored with proper citation. Finally, academics should always strive to make their research more accessible to a wider audience, and this responsibility is even more apposite in the context of a study of disability and impairment, a discipline embroiled in the fight for greater inclusivity and accessibility.

The aim of this section was to detail the elements of feminist scholarship that have influenced the project. The chapter has shown that the impact of feminism has gone beyond what was initially envisioned from the outset and, has evaluated the practical issues of applying the theory to practice in this context. The feminist concepts of entanglement, performance and embodiment, alongside the dis/ability as a continuum model, forms the theoretical underpinning of this thesis. Feminist perspectives persistently challenge established binary dichotomous ways of thinking, which is particularly useful when trying to escape modern ways of thinking, which may not be applicable to an ancient mindset. Feminist works have also emphasised the need for reflexivity and honesty about the author's lack of objectivity in relation to the subject matter. Finally, the fictive narrative writing style has proven an invaluable method of disparate data integration and accessible communication.

Chapter 3 Studies of disability in the past

Chapters two and three together outline the theoretical and scholarly hinterland of the thesis, explaining how the current undertaking has come to be. There has been a prevailing assumption, until relatively recently, that people with disabilities in antiquity did not fare well and therefore, there is not much discourse to be had (Covey 1998). Studies from palaeopathology and Roman academia have challenged this assumption, and this forms the basis of discussion within this section. The chapter is split into two broad sections; the first critiquing key themes and evidence types used to study disability in Roman studies. The second part discusses and evaluates osteoarchaeological approaches to impairment and disability, exploring the potential of osteological data and its associated problems. Throughout the chapter, key issues concerning the study of disability in this project are addressed and are accompanied by a justification for the stance adopted in each case.

3.1 Infanticide and Exposure

There is a popular perception that the killing of impaired or deformed infants soon after birth is the defining feature of antiquity's relationship with disability (Laes 2011a; Southwell-Wright 2014). Discussing infanticide in the past is challenging because it is a highly emotive and contentious issue, that provokes anachronistic debates on moral values, which has nevertheless preoccupied Roman scholarly and bioarchaeological discourse on ancient disability (Laes 2008). The following section will provide a brief overview of the evidence and discuss the importance of the theme of infanticide and exposure in the wider study of disability in the Roman period.

A key distinction is made between 'infanticide' and 'exposure', with the former referring to the process of killing an unwanted, new-born infant and the latter being defined as the abandonment of babies, perhaps in the near environment (Evans Grubbs 2013; Southwell-Wright 2014; Stahl 2011). The proposed reasons for this behaviour have been numerous, from financial implications to the active rejection of a female or disabled child. It is often suggested that exposure was the more common practice (Laes 2018; Southwell-Wright 2014). It has been posited that as many as one in thirty children from poor families were exposed to be slaves; if true, this would prove a major source of people for the slave trade, although this claim is difficult to confirm (Laes 2008: 98). The importance of the distinction between the two terms is crucial; not only did the Romans themselves not equate infanticide with exposure, but also it has implications for the potential survival of people with congenital disabilities (Southwell-Wright 2014).

Classical literary sources provide the most unequivocal indications for the practice of exposure and infanticide of infants with disabilities (c.f. Evans Grubbs 2013; Garland 2010; Kelley 2007; Laes 2008; 2013; 2018; Southwell-Wright 2014; Vlahogiannis 1997). Extracts from legal documents provide compelling evidence, such as the law issued by Romulus prohibiting the killing of infants under the age of three, except in the case of a disabled child or prodigy (Dionysius of Halicarnassus, *Roman Antiquities*. 2. 15. 1-2) and the reference to the killing of deformed children in the law of the Twelve tables (Cicero, *The Laws*. 3. 19). The most explicit mention of infanticide was made by Seneca Rhetor who said

'Many fathers are in the habit of exposing offspring who are no good. Some right from birth are damaged in some part of their bodies, weak and hopeless. Their parents throw them out, rather than expose them.' (Seneca the Elder *Controversiae*. 10. 4. 16).

This quotation seems to allude to the difference between infanticide and exposure discussed above. This evidence is used to show that infanticide and exposure was legally permissible within the Roman Empire, however it has been pointed out that just because people had the legal right to commit infanticide, does not necessarily mean they did so (Southwell-Wright 2014). Additionally, these historical sources are dated to the earlier Roman period, which has limited application within the scope of this project.

Potential bioarchaeological evidence of infanticide in Roman Britain has been identified in the form of mass infant graves, such as at Yewden Roman villa site in Hambleden, Buckinghamshire (Gowland et al. 2014; Hassan et al. 2014; Mays and Eyers 2011; Taylor 2015). This evidence has been much analysed; for example, ancient DNA analysis has been used to determine the biological sex of the infants, with the expectation of finding a higher proportion of females, however low successful sample sizes leaves the studies inconclusive (Hassan et al. 2014). Infanticide, along with the underrepresentation of infants in many cemetery populations, has been interpreted as evidence of indifference towards the youngest in society, perhaps as the result of the attitude that infants were incomplete humans without a social persona (Carroll 2018). An alternative perspectives views infant burial in domestic vicinities, not as indifferent disposal, but as a reflection of a desire to keep these children close by (Millett and Gowland 2015; Moore 2009a). The circumstances surrounding these infant burials are likely to remain a mystery, especially as it is notoriously challenging to identify pathologies in infant remains (Lewis 2007). Maureen Carroll highlights the variability inherent to the scenarios under study. In all societies, children are wanted by some and not by others (Carroll 2011), and therefore, sweeping generalisations about the attitudes of all Romans to their young infants will always be found wanting.

Context is an essential theme to consider when grappling with this topic. The context of the ancient world is very different to the modern, with different beliefs, attitudes and expectations of life. For example, expectations of infant survival and, understanding about the permanence of certain congenital impairments were very different to today (Laes 2008). Additionally, the Christian concept of the right to life of a new-born was alien to the Greeks and Romans (Laes 2008). A key element to note is that infanticide was definitely not a pan-Roman Empire practice, as the Egyptians, Germanic tribes and Jews did not practice it (Laes 2008; 2013; Horn 2017). The practice also significantly varied over time. Christians believe that disability is part of God's plan (Southwell-Wright 2014), thus the imperial conversion to Christianity saw infanticide made illegal and punishable by death in 374AD (Horn 2017). This covers the very latter stages of the period under study at Alington Avenue, although there is difficulty gauging the extent to which a law was enforced in Roman Britain. What is clear is the importance of context and the variability of attitudes towards disability that were present across the Empire.

The infanticide debate dominates Roman disability studies, but it should be remembered that this discussion concerns a small minority of people with disabilities in this period, as many congenital impairments are not apparent from birth and impairments can be acquired later in life (Laes 2013; 2018; Southwell Wright 2014). It seems that it will be impossible to learn exactly how far-reaching the practice was. Infanticide is an interesting theme that demonstrates the variability of attitudes towards disability in the Empire, but it is important to remember that some individuals did survive, and it is their experience that will be the main topic of this thesis.

3.2 Disability terminology in literary sources

There has been a growing corpus of work concerning literary evidence of disability in antiquity. There are notable issues with the evidence type, not least of which is the fact that people with disabilities were rarely the main interest of ancient writers (Laes 2013). The evidence also reflects the opinion and attitudes of a narrow section of the Roman population, that of the literate elite (Southwell-Wright 2014). Literary sources do, however, provide evidence of impairments that are invisible in the palaeopathological record, such as deaf-muteness, speech and visual impairments (Laes 2011b; 2013; 2018; Trentin 2013). Terminology is a thorny issue in Roman disability studies, as the written sources have not yielded an equivalent term for 'disability' (Garland 2010; Kelley 2007; Laes 2013). This has led some to question the validity of the discussion of disability in the Roman past at all, as the lack of specific terminology suggests a very different mindset that perhaps did not confront issues surrounding individuals with impairments. This forms the basis of discussion in this short section.

The vocabulary that was used to describe individuals with abnormalities was derogatory, and there seems to have been no effort made to make it less so. This has been argued to reveal a great deal about social attitudes, although it may well be impossible to produce a vocabulary that does not in some way insult or patronise (Garland 2010). Despite a lack of an exact equivalent term for 'disability', Christian Laes (2020) has demonstrated that Roman writers did recognise and demarcate the difference between a temporary illness and a more permanent condition that impacts a person's physical and/or mental abilities long-term. In Latin, *morbus* tends to signify a temporary affliction, whereas *vitium* was the most common term used to denote a lasting affect (Laes 2020). A commonly cited example is *monstrum,* the origin of the English word 'monster', a term that was used to denote both humans and animals exhibiting gross malformations (Garland 2010). Other vocabulary used to describe different types of impairment include: *portentosi* (unnatural/portentous births), *debiles* (sick/weak birth), *monstrosi* (deformed infants) and *phantasmata* (serious malformation) (Southwell-Wright 2014), as well as terms for specific impairments such as *mutus* (mute), *surdus* (deaf), *luscus* (one eyed) and *pumilio* (dwarf) (Gevaert 2012; Stahl 2011). When thinking about these terms, one must avoid the assumption that they correspond directly to the matching named impairment we know today (Goodey and Lynn Rose 2013), especially because there was a lack of standardisation of terminology in ancient texts (Kelley 2007; Trentin 2011). Above all it is important to remember that these terms were used by mostly non-disabled authors, and therefore, do not reflect the self-identification of people with disabilities (Garland 2010).

There is no evidence of an equivalent umbrella term of "disability", which suggests that people with impairments were not separated into, or perceived as, a single identifiable group (Kelley 2007). This perhaps highlights the artificiality of the modern category. Nevertheless, Laes et al. (2013) believe that the concept is still a fruitful line of enquiry within studies of Roman antiquity, citing the success of studies into ancient homosexuality, despite a similar lack of corresponding terminology. Kelley (2007) justifies the use of the word 'disability', as it captures something of the Greco-Roman notion that physically extraordinary individuals fell short of bodily or aesthetic ideals. The ancient Romans may not have had an equivalent word for disability, but it does not mean that disabling attitudes and experiences are not evident. For example, 44% of known cognomina refer to a physical defect, such as *Brutus*, meaning 'the mute' (Laes 2018: 16). These cognomina echo modern name-calling, such as a person who wears glasses being called "four eyes", a ridicule based on their impairment. The use of the term 'disability' above all allows potential understanding and communication of ideas to a modern reader, which is the most important aim of research.

3.3 Roman art and body ideology

The art world has offered a unique and complex insight into attitudes surrounding the human body and disability in the Roman period. The chief artistic inspiration throughout antiquity was the physically perfect human body, which was far from the reality for the majority of the ancient population (Garland 2010). The exceptions are found mostly in the form of grotesques, usually small-scale statuettes made out of terracotta which depict an ugly or a comically distorted figure, often with a visible impairment (Masséglia 2015). These were popular from the late Hellenistic to the first centuries of the Imperial Roman period (Garland 2010). The notion that these items were teaching aids for medics has mostly been discredited, due to the grotesques' general lack of anatomical accuracy and their position, style etc. which is not conducive to anatomical study (Masséglia 2015; Trentin 2015). Instead, most scholars agree that the grotesques' function was apotropaic (Garland 2010; Kelley 2007; Masséglia 2015; Mitchell 2013; Trentin 2015; 2017). This suggests that the items were imbued with qualities that prevented harm, bought good luck and offered protection from the evil eye of envy.

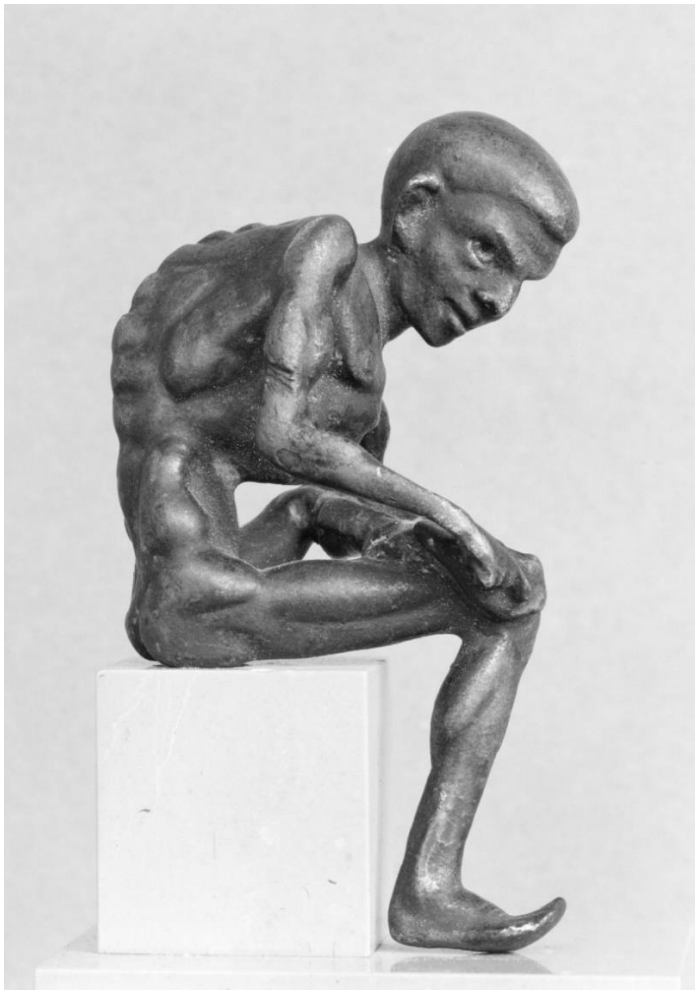

Figure 3.1 - Bronze, grotesque figurine with a hunched back in a spinario pose.

Source: Musée du Lourve, Dist. RMN-Grand Palais

The talismanic attributes of the grotesques have been hypothesised because they were intended to be comical, and laughter was believed to be a defence against the evil eye (Mitchell 2013). This alludes to a Roman predilection for mocking people with visible impairments. The apotropaic attribute seems to have been extended to their living counterparts; it is often cited that people with visible impairments, such as dwarfism, were prized as slaves, thought to bring their elite owners good luck (Garland 2010; George 2002; Southwell-Wright 2013). The popularity of these slaves is reported to have continued from the early imperial period to beyond the Christian conversion of the Empire (Laes 2018).

A number of the grotesque representations of hunchbacks and other disabilities are depicted as the direct opposite of the ideal human body. This comparison is invited in some cases by the use of postures and designs popularly used in the depiction of the ideal body, such as the Spinario or thorn puller pose (see figure 3.1 on previous page), which implicitly invites comparison between the two subjects. Trentin (2015) argues they represent the two extremes on a sliding scale between beauty and ugly, civilised and non-civilised. This then invites the viewer to reflect on where they fit within that scale. All representations of hunchbacks are marked by somatic difference from the ideal, including details of what they wear, with their garments indicating a non-citizen status (Trentin 2015).

The hunchback from Villa Albani-Torlonia is unique in the sample of grotesques, as it is considerably larger and decorated the Baths of Caracalla in Rome, a monumental and public space (Trentin 2015; 2017). This body was a public object and was likely used as an apotropaion in the Baths where the evil eye was believed to be ubiquitous. There is evidence that the hump, in particular, has been frequently touched (Trentin 2015; 2017). The physical engagement with this body type is a common theme. Trentin (2015) believes that the diminutive size of the majority of the grotesques she studied invited physical engagement and close up inspection of the body type. This physical interaction, and shrinking of the body, tamed the 'other'. The body of the disabled is therefore contrasted to the ideal and presented as an extreme opposite. Additionally, the body is not private but is to be explored and touched.

Greco-Roman body ideals have been argued to be the root of prejudice towards people with disabilities in the modern world (Adams 2017). The frequency of hunchbacks in ancient art is not a reflection of the real frequency of this pathological state at the time; instead it is testament to the pervasiveness of the apotropaic belief (Mitchell 2013). Garland (2010) claims that disabled people could have been perceived to have the power to redirect evil because they were believed to be inherently wicked themselves. The impaired body represents an odd middle-ground, prized for being good luck charms and exotic, but also treated as 'other', shameful, extraordinary and

something to be mocked and used. It should be highlighted, however, that the majority of the representations known are miniatures that were found in domestic settings and were likely private objects. The potential audience therefore that could be affected by the messages they entail are likely to have been quite small. How far these ideologies impacted upon non-elites or the whole empire would be difficult to ascertain.

3.4 Roman Medicine

There has been little integration between disability studies and the history of medicine, which has meant that each discipline has overlooked fruitful parts of the discourse (Marx-Wolf and Upson-Saia 2015). The relationship between people with disabilities and medicine affected both parties; people with disabilities likely formed a notable part of the patient base and medicine shaped the experiences that people with disabilities had, as the result of treatment, and/or beliefs surrounding their impairment. The following section explores how the history of medicine can supplement the study of disability in the Roman period, by focusing on the experiences of people with disabilities as patients and the beliefs surrounding illness and the body.

Perhaps the most obvious consideration, when thinking about the impact that ancient medicine had on the lives of people with impairments, is to evaluate the efficacy of the medical treatments. There has been overall a fairly negative view of the effectiveness of ancient medicine, with some examples, such as the violent measures used to straighten hunched backs, even being shown to have caused more harm than good (Garland 2010; Harris 2016; Nutton 2013). Comparing ancient medicine to modern-day standards will always find the former to be wanting, however, it should be noted that there were notable advances. Ancient pharmacology has been demonstrated to have a high level of complexity and efficacy, and indeed, the Roman world was not completely without painkillers (Cruse 2004; Hautala 2015; Towaide 2014). In addition, Celsus' description of the circular amputation technique is judged a sound method by modern standards (Jackson 1988).

A society's beliefs surrounding the body has a profound effect on the attitudes towards people with disabilities. The most famous idea associated with Roman medicine is the Hippocratic theory of the four humours. This theory hypothesises that the human body was composed of four substances: phlegm, blood, yellow bile and black bile; and that ill health was caused by these substances being out of balance (Cruse 2004; Nutton 2013). The humoral emphasis on balance had a great influence on the Roman psyche, to the point that beauty was viewed as an indication of balanced humours and health (Baker 2013). This viewpoint probably had a significant impact on the perceptions of people with visible deformity, these people being seen as unhealthy, even if

this was not medically the case, which could affect their overall abilities to participate in their expected social roles.

The theory of the four humours was likely to have been the most encountered school of medicine, as it was used by physicians in the Roman army throughout the Empire, who are likely to have treated soldiers and civilians alike (Israelowich 2015; 2016). There were alternatives to Humoral medicine which included: Dogmatism, Methodism, Empiricism and Pneumatism (Cruse 2004; Zucconi 2019). The medical theory that a doctor followed, therefore impacted upon the treatment a patient received. For example, Empiricists required the patients to be constantly observed and re-evaluated, allowing for remedies to be tweaked over time, which could be time-consuming and costly, whereas Methodists emphasised the so-called commonalities between patients and their diseases, allowing for swift diagnosis (Nutton 2013).

Beliefs concerning disease aetiology are a crucial factor when considering attitudes towards people with disabilities. Nutton (2013) claims that there were two competing theories; the first believing disease was spread through bad air, the latter through touching the afflicted. The latter particularly could cause people to be reticent about approaching sick people and cause isolation. Religion also offered an explanation for impairment. All the Greek and Roman deities were believed to have the ability to cause and cure disease and injury (Zucconi 2019). In Christianity, impairments could be a divine punishment, a test of faith, or a sign of divine favour (Marx-Wolf and Upson-Saia 2015). Religion based medical theory and practice was not necessarily mutually exclusive from other aspects of medicine. Physicians and lay practitioners would see no contradiction in simultaneously prescribing herb, prayer and amulet-based medicines (Harris 2016). The impact of religion in the lives of Roman people cannot be overstated, as it pervaded every aspect of their lives (Turcan 2001). A key change that Christianity brought was the concept that the physical health of the individual was irrelevant to the soul's salvation, and that impairments would be all cured when the holy believers entered heaven (Vlahogiannis 2005). Alongside this idea came the new notion of the religious act of charity. One could argue that this was a positive change of attitude for people with impairments, however, this perspective was not one of acceptance. The impairment was perceived as a wrong from which an afflicted person should be cured (Vlahogiannis 2005). In Christian mentality, the disability was not a constituent feature of a person's individuality, but a mistake (Laes 2013). This is a long way from the kind of acceptance modern disability activists strive for.

The presence of people with disabilities is undeniable in cases of so called "medical tourism" (Israelowich 2015). Medical tourism refers to patients' travels to reputed centres of healing, such as shrines, looking for cures (Israelowich 2015). Such pilgrimages would imply an illness or

impairment that is long-term and sufficiently impactful for them, and/or their family members, to undertake a journey, sometimes over long distances. Anatomical votives or ex-votos testify to the presence of these visitors (Cruse 2004). These artefacts are mostly found in Italy and Cyprus and date mostly to the republican Roman period, although there were peaks and troughs in their popularity (Draycott and Graham 2017; Flemming 2016; Michaelides 2014). These votives often emulate a human anatomical body part, and are interpreted as deposited in hope of, or in gratitude for, a cure of a condition affecting that region (Draycott and Graham 2017; Michaelides 2014; Nutton 2013). Anatomical votives typically resembled limbs, fingers, toes, eyes and genitalia, which are thought to represent the main health concerns of the visitors (Flemming 2016; Michaelides 2014; Nutton 2013). Internal organs are conspicuously absent, perhaps reflecting a lack of knowledge about the internal anatomy or alluding to a Roman preoccupation with visible differences. Medical tourism arguably offers one of the few indications of an individual with impairment's perception of themselves. The presence of anatomical votives provide evidence of someone participating, and implicitly subscribing, with the ideals and beliefs evident in that context. The psychology behind the votives has been the subject of some discussion. The fragmentary way the body is represented is thought to be significant, as the affected part is depicted in its desirable state and isolated from the rest of the body (Adams 2017; Baker 2013; 2016; Draycott and Graham 2017). Ellen Adams (2017) describes anatomical votives as psychological and ritualistic prosthesis. The process of visiting the shrine and donating a votive allows the individual to regain a sense of control over their affected part, by separating it from the somatic whole of the body (Adams 2017). The contexts where such votives have been found provide rare examples of sites where we can be sure that some people with disabilities visited. Graham (2017) uses phenomenological type analysis at Ponte di Nona, a sanctuary site where a high number of foot votives seems to suggest a specialism for mobility complaints. The site was difficult to access, pointing towards the trial that visiting such a place would have been for the individual, especially one with a mobility impairment. It seems that people would expend a great deal of effort in hope of achieving normality (Adams 2017; Graham 2017). The overall perception gained from evidence of medical tourism, therefore, is one of anxiety and dissatisfaction towards impairment.

Prostheses provide a very rare, yet direct, evidence of disability. Prostheses are usually defined as an artificial body part designed to replace a missing part. In practice, however, prostheses can cover a wider range of artefacts, including items that replace or enhance bodily functions (Adams 2018). In the broadest definitions, Katherine van Schaik (2018) describes relatives and friends as living prostheses, as evident in documents and imagery of people with paralysis in the Roman period. The limited repertoire of known instances of ancient prostheses have been catalogued by

Bliquez (1996). Literary references to the artefacts supplement the scant archaeological evidence. A notable instance can be found in Pliny's description of Marcus Sergius Silus, a war veteran who was furnished with an iron prosthesis to replace his right hand. Sergius Silus became praetor, but his colleagues tried to debar him from sacrifices because of his infirmity (Laes 2011a; 2018; Wirth 2010). This presents one of the clearest instances of direct evidence of disabling attitudes from the Roman period. Apart from possible hair pieces, there is no evidence of prosthesis from Roman Britain (Draycott 2019). For the purposes of this project, the contribution of medicine scholarship needs to be contextualised within the British environment.

Discussing medicine in Roman Britain is a difficult feat, as the textual and archaeological sources, that form the bulk of the above discussion, primarily concern Mediterranean locales, although the Vindolanda tablets present a rare exception (Graham 2014; Israelowich 2015; Nutton 2013; Zucconi 2019). The archaeology of medicine may be able to bridge some of the gap. Most archaeological research undertaken has focused on the medical equipment found and its classification (see Diamondopoulous 2014; Jackson 1988; 2014). Baker (2002) warns against this approach, however, when studying the medicine of the provinces. The lack of standardised, professional medical training means that surgical instruments and their designs may have travelled across the Empire without an instruction manual, and so may not have been used as intended (Carr 2002). Items, whose use appears common sense to modern eyes, would have been used within a contemporary understanding of the body (Baker 2002). For example, a Roman style medical kit was found in Stanway, Essex, was noted to demonstrate the adoption and merging of Roman medical practices with indigenous praxes (Baker 2013; Zucconi 2019).

Context greatly affected people's experience of medicine in the Roman world as there was great variability both regionally and temporally. Medicine also involved numerous different groups of people, from family and priests, to physicians and other more recognisable medical professionals. It is clear that the modern categorisation of different strands of medicine does not match Roman mentalities, the distinctions made between so-called lay, religious and high medicine were blurred in the ancient mindset (Harris 2016). The above discussion of the history of Roman medicine offers an insightful background from which to understand attitudes faced, and possible experiences had, by people with disabilities. For this project, this needs to be caveated, however, with the challenges associated with contextualising data in Roman Britain.

3.5 Osteoarchaeology and the study of disability

'Bioarchaeology [also known as Osteoarchaeology] is the study of people who lived in the past, carried out using archaeology, but with a framework situated within, and developed from, biological methods.' (Zakrzewski 2015: 157).

This remit is extensive and includes numerous methodology types, such as: traditional macroscopic, radiological, isotopic, morphometric and archaeothanatological analyses. Osteoarchaeology and funerary archaeology has often focused on specific aspects of identity, such as age, gender, status, and more recently, disability. The potential of the human skeletal record is expanding as new material is found and new methodologies are developed (Morris 1992). There have been calls, however, to better integrate osteoarchaeological study into general archaeological discourse of the Roman world (Gowland 2017b). This section takes a closer look at osteoarchaeological studies of disability and the key themes within this field, discussing their impact on the current project.

3.5.1 Retrospective diagnosis

Retrospective diagnosis of past people's illnesses and impairments has been subjected to heavy criticism (Baker 2013; Goodey and Lynn-Rose 2013; Karenberg and Moog 2004; Marx-Wolf and Upson-Saia 2015). This is largely due to an issue of biological determinism, a perspective that treats disease and illness as if it were a trans-historical, cross-cultural entity (Graumann and Horstmanshoff 2016). As Goodey and Lynn-Rose (2013: 20) state:

'We must not exhume dead people and diagnose them with a condition that was invented long after they died'.

The term 'invented' in the quotation suggests that conditions are man-made, alluding to the perspective that 'impairment', like 'disability', is a social construct. The stance reflects a similar position held by some gender theorists, that both 'sex' and 'gender' are social constructions (Sofaer 2006). It suggests that an impairment only exists, and has impact, if it is recognised and labelled as such by the individual and community affected, emphasising the role that culture plays in how an illness or impairment is experienced (Hsu 2002; Latour 2000).

A core tenet of this thesis, and the use of palaeopathology more generally to study disability in the past, is that of *permanence biologique*, the understanding that the human body is fundamentally, biologically unchanged in comparison to the modern body (Graumann 2017; Laes 2018). It is with this understanding that modern clinical information concerning pathology can offer insight into the past. The problem with the concept of *permanence biologique* and using

modern clinical data to inform discussions about past experiences is that impairments often have modern, cultural baggage accompanying them, including modern taxonomies used to diagnose the pathologies (Latour 2000; Roberts 2011). Just because an impairment can be identified by modern standards, does not mean that past peoples understood it in the same way (Baker 2013). For example, a congenital learning disability, such as autistic spectrum disorder, is now known to be incurable (whether this is desirable or not), however in the past, it is plausible that people believed children could grow out of it (Garland 2010; Laes 2008). Therefore, statements like the following from Tilley and Oxenham (2011: 39) describing a skeleton (M9) from Vietnam who was diagnosed with Klippel Feil syndrome, are anachronistic and should be avoided.

'At some stage following paralysis onset the extent of functional impact, combined with failure to improve, would have made it clear that M9 was not going to recover independence; that his health would probably deteriorate further; that he would never be capable of making a substantive material contribution to the community'.

Despite these issues, modern diagnosis can provide a useful mechanism by which to inform a discussion on the long-term effects of an impairment and how this may have affected their experience (Baker 2013). A researcher, however, needs to be aware of the cultural baggage through which they understand impairment and focus on the biological aspects of the experience of impairment that is likely to be similar across the ages.

3.5.2 Diet and dis/ability

Diet is one fundamental aspect of an individual's daily life which can be analysed from skeletal remains. The analysis of carbon and nitrogen stable isotope ratios can be used to derive specific information on diet. The presence of a high proportion of maize in the diet can be identified through higher δ13C values and, differences in the δ13C and δ15N values can identify carnivorous and marine rich diets (Brown and Brown 2011). The latter of these analyses is of interest to the study of Roman Britain. Isotopic studies of the skeletal collections from the county of Dorset have looked for evidence of changes within diet, migration patterns and weaning habits over time, which perhaps could be attributed to a cultural change resulting from the Roman invasion (Redfern et al. 2010; Redfern et al. 2012).

The relationship between diet and dis/ability has yet to be explored in bioarchaeology. Dietary isotopic signatures represent sustained patterns of behaviour and so can be argued to be an indicator of daily life. In the Roman period, access to food was not limited by physical capacity, therefore any differential access to food could be the result of cultural and social processes, like affordability. Statistics from the European Union have shown that people with disabilities are

more likely to struggle with financial difficulties (Eurostat 2020). These financial challenges extend to difficulties affording dietary components such as meat or fish. 12.4% of people living with an impairment could not afford to eat meat, fish or a vegetarian equivalent at least every other day, which compares to 6.7% of people without an impairment who also could not afford these dietary components (Eurostat 2020: 3). These statistics show that, although disability is clearly not the only cause of problems with accessing food, there does seem to be a link that impairment increases the likelihood of these difficulties being experienced. This modern analogy helps to show the kind of patterns that can be seen between impairment and diet, which can be explored in the past. The inclusion of the consideration of diet and patterns like that observed in the modern world, lends itself to the entanglement perspective explored above. In these cases, different factors are difficult, if not impossible, to untangle, but that does not mean that it should be ignored (Gowland 2015). Explorations of diet forms a small part of this overall thesis, adding another component to the integrated osteobiography, afforded by the work already completed by Redfern et al. (2010) but, the relationship between diet and dis/ability merits further exploration.

3.5.3 Bioarchaeology of Care

Some of the earliest osteoarchaeological studies of disability discussed the presence of severely impaired individuals in the past, as evidence for care behaviour in our earliest ancestors, which in turn has been described as proof of compassion in early humans. Dettwyler's (1991: 379-382) article challenges this by outlining the assumptions that are regularly made whilst interpreting the remains of individuals with impairment:

1. *'The vast majority of a population's members are productive and self-sufficient most of the time.'*
2. *'Individuals who do not show skeletal/fossil evidence of impairments were not disabled'*
3. *'A person with a physical impairment is, necessarily, non-productive.'*
4. *'"Survival" of disabled individuals is indicative of "compassion"'*
5. *'Providing for, caring for and facilitating the survival of a disabled individual is always the "compassionate" thing to do.'*

The assumptions listed are useful criteria when thinking about disability in the past, which help avoid thoughtless jumping to unsubstantiated conclusions, such as "this person would have been disabled", without stating why. Dettwyler's overall conclusion, however, is pessimistic about the field's potential in this arena of research, stating:

'*Whether or not an individual was "handicapped" by his disability cannot be determined from archaeological evidence alone*.' (Dettwyler 1991: 384).

This conclusion is symptomatic of the view that skeletal remains can only reveal biological information; this assertion is challenged throughout this study.

Dettwyler's somewhat damning conclusions halted osteoarchaeological research into disability for a long while. Recently, however, the index of care has been developed, as a methodology to systematically analyse case studies of human skeletons with severe impairments, so that a conclusion of care giving can be justified with academic rigour (Tilley 2015a; 2015b; Tilley and Cameron 2014). Lorna Tilley (2015a; 2015b; Tilley and Cameron 2014; Tilley and Oxenham 2011) uses clinical data of pathology to discuss: the implications of diseases, their functional impacts for daily activities and whether these issues necessitated care. From this data, a model of care is constructed which identifies the important elements of care required, such as duration of care, resources needed etc. From this model, the implications of collective and individual agency in the provision and receipt of care are then discussed (Tilley 2015a; 2015b; Tilley and Cameron 2014; Tilley and Oxenham 2011). Tilley's (2015a) approach was designed to be applied in a prehistoric context, but she argues that the methodology can be applied to study care in other time periods. For the study of Roman cases, additional details about the medical care and context are available, although our information on this topic is by no means exhaustive. This approach has demonstrated that themes, such as care, can be researched with academic rigour in osteoarchaeology.

3.5.4 Potential of palaeopathology in the study of dis/ability

The bioarchaeology of care tends to focus on extreme impairments, which provide a certainty that care provision was necessary to ensure survival. There is, however, a broader spectrum of dis/ability which requires consideration of both the extraordinary and more ordinary impairments evident. This section aims to give a brief review of the potential and limitations of palaeopathological analysis within the scope of this research.

It should be noted from the outset that there is an extensive list of impairments that cannot be seen in human skeletons, as some conditions only affect the soft tissue (Roberts 2000). Therefore, the impairments recognised in the skeletal record represent the bare minimum of those that actually existed. Mental impairments are mostly invisible in osteoarchaeological material but, there are some conditions where perhaps it can be cautiously inferred. Downs syndrome and tertiary stage syphilis are two such conditions that have a well-documented impact on mental functioning and can be identified through palaeopathological analysis (Buikstra 2019a; Rivollat et al. 2014), despite this osteoarchaeologists are mostly unwilling to discuss the mental health aspect of these conditions. Although a seemingly intangible feature in skeletal remains, the

mental and emotional aspects of impairment should not be forgotten in a discussion of dis/ability. In addition, one must consider the osteological paradox, which suggests that healthier individuals were the ones that manifested palaeopathology, as they survived long enough with the disease for changes in the bone to appear (Wood et al. 1992). This is, however, advantageous to the study of disability, because this means we can be sure, in most cases, that the person would have lived with the pathology evident for at least a while.

The ability to diagnose different medical conditions in skeletons is ever increasing. Osteologists have written extensively on pathologies and the archaeology of diseases (c.f. Aufderheide and Rodríguez-Martín 1998; Buikstra 2019a; Roberts and Manchester 2010; Waldron 2009). A number of articles explain in detail the differential diagnosis process of palaeopathology (for examples see Roberts 1988 and Rivollat et al. 2014). Yet rarely do these studies explore beyond medical diagnosis, to discuss how that condition could have impacted an individual's experience, in terms of their physical or mental ability, or in relation to their gendered social role. This reluctance may be due to the fact that the ramifications of an impairment can vary so much from person to person. For example, the aetiology of Down's Syndrome is well understood, it being a genetic condition caused by the presence of an additional chromosome. The consequences of this genetic anomaly, however, can vary extensively. People with Down's syndrome often have a distinctive physical appearance, learning disabilities, vision and hearing impairments and various health conditions, such as heart and bowel problems, but often they have a seemingly random combination of the symptoms, or even none at all (Evans-Martin 2009). This makes interpreting the consequences of a pathology from skeletal remains very challenging.

3.5.5 Bioarchaeology of Pain

Pain refers to the discomfort caused by biological insults (Martin and Harrod 2016), which is often an unavoidable and unpleasant part of the experience of an impairment. Pain is universal to all humans, yet it is also extremely variable from person to person; a condition that causes unbearable suffering for one individual, can be manageable for another, and this can vary day-by-day (Jurmain 1999; Kjellström 2010; Martin and Harrod 2016). On top of this, the experience of pain is also modulated by biological and cultural factors (Martin and Harrod 2016; Zurhake 2020). For example, ancient life, with its limited analgesia, is thought to have been full of '*unavoidable and mainly unappeasable pain*' (Harris 2016: 35) and therefore, pain was an expected and endured part of life, and average pain tolerances are presumed to have been higher than those in the modern West (Zurhake 2020). Pain can be communicated in a number of ways including verbally (e.g. cursing), vocal (e.g. screaming), motoric (e.g. making a fist) and social (e.g. withdrawing from social situations) (Zurhake 2020).

Chronic pain describes pain experience that persists beyond the expected length of time that a biological insult would take to heal, usually between 3-6months (Zurhake 2020). Chronic pain can present a severe impairment and change a person's sense of normality (Zurhake 2020). Along with the unpleasant sensation itself, a 'social death' can also be experienced, resulting from social isolation, fear, depression and loss of status and respect amongst friends, family and community (Zurhake 2020). The consequences of chronic pain do not just impact the individual physiologically but also impact them as a social being, in turn also having implications for their community.

Zurhake (2020) highlights the limitations of inferring chronic pain through palaeopathology, as the emotional and psychological factors are missing from the dataset. Modern medical literature therefore is crucial when considering the experience associated with palaeopathology (Martin and Harrod 2016). An additional complication presents however, when using palaeopathology as evidence for pain experience, as some minor osteological changes can cause major discomfort, but other more significant changes are asymptomatic (Jurmain 1999; Kjellström 2010). A key example of this issue can be seen in the study of back pain, one of the largest causes of impairment and discomfort throughout human history (Plomp 2017). Yet there is no consistent relationship between the osteological lesions present and the pain experienced, as noted by Hannan et al. (2000) who examined a sample of 7000 individuals, and found that although 1000 people reported knee pain, only 15% of them had x-ray evidence of osteoarthritis. Furthermore, of 319 individuals with radiological evidence of osteoarthritis, only 47% reported pain (Hannan et al. 2000). This level of discrepancy is a minefield when trying to interpret how a pathology was experienced, yet as Plomp (2017: 151) rightfully argues:

'If back pain impacted the quality of life of individuals in the past even a fraction as much as it does today, it is worth considering during bioarchaeological investigations, and could be an interesting aspect of many osteobiographies.'

Kjellström (2010) presented a three-pronged methodology to explore pain in the past that: accepts the concept of *permanence biologique*, creates analogies between the past individual's and present patients' experiences, and considers the cultural expression of pain. This approach integrates the three crucial aspects of pain: the general physiological process, individual susceptibility and cultural expression (Kjellström 2010) and, therefore, forms part of the methodology used in this project.

3.5.6 Osteobiography

The osteobiography has been used as a method to explore impairment and disability in the past (c.f. Boutin 2016; Boutin and Porter 2014; Hawkey 1998; Martin and Potts 2012). The term

'osteobiography' was coined by Saul and Saul (1989) to describe the life history gleaned from human bone. The concept of "osteobiography" has recently been critiqued as poorly defined and theorised, the term becoming interchangeable with "case study" (Appleby 2019; Hosek 2019; Hosek and Robb 2019). There have been different approaches to an osteobiography. Diane Hawkey (1998), for example, constructed an osteobiography of an individual from Gran Quivira in New Mexico (GQ 391), an adult male, whose skeleton exhibited the symptoms of Still's disease. Using three skeletal indicators: musculoskeletal stress markers (MSM), joint mobility and disease progression, Hawkey estimated the progression of the disease's debilitating effects throughout the individual's life. Hawkey's (1998) osteobiography very much focused on the individual. In contrast, Robb's (2002) study aimed to compose a composite osteobiography of a Neolithic population. Robb's (2002) study oscillated between analysing the individual and the society, looking to understand the cultural idea of what a human life should be, and the ramifications if an individual could not actualise the ideal narrative. These two studies have been particularly influential to this thesis; both Hawkey's tracking of an impairment's progression through time, and Robb's interplay between population and individual level analysis, are applied in the osteobiographies written in this project.

The mortuary provision afforded to people with impairments has been used as an indicator of a burying community's attitudes toward disability (Fay 2006; Roberts 1999). For example, Graham (2013) discussed a single mausoleum at Via Collatina, just outside Rome, which housed several skeletons with impairments, who otherwise seem to have nothing in common. Graham (2013) argued that this was the result of a society recognising these individuals as different and belonging together. The study of atypical burial types (sometimes known as 'deviant' burial types, although this is not utilised within this thesis due to its distinctly negative connotations) is pervasive within the study of the mortuary treatment of people with impairments (c.f. Crerar 2016; Milella et al. 2015; Molleson 1999; Quercia and Cazzulo 2016; Shay 1985; Taylor 2008). These studies analyse patterns of burial type and incidence of impairment, arguing that atypical burial provision is symbolic of social attitudes towards the difference people with impairment exhibited. The study of the mortuary setting is a useful cultural indicator, however, social responses to death tend to provoke out of the ordinary behaviour in a society. For example, mourning behaviour attested to in ancient Rome turned everyday social expectations on their head, with people deliberately dressing and behaving differently, by not washing and self-harming. This expression of loss was the complete opposite to usual standards of acceptable Roman behaviour (Hope 2017a). The dead individual in the mortuary context is comparatively passive, compared to the living person. This would, therefore, suggest that mortuary provision does not reflect living individual's experiences or the attitudes they inspired in others during life.

It would, nevertheless, be beneficial to contrast the insight gained from mortuary analysis with that from other data sources, to see how representative they are, something that is explored within this project.

The intimate and direct nature of bioarchaeological analyses of the past lends itself to a bottom-up approach (Redfern 2017). There are, however, issues of scale. In osteoarchaeology, particular sites have been identified to have a disproportionate influence on general population characterisation (Pearce 2013). Osteobiography, has sometimes been criticised as unscientific for its focus on one individual, which has limitations in its ability to prove a general point (Hosek and Robb 2019). Adams (2017) has stated however, that within disability studies of the ancient world, generalisations are misleading. Recently, osteobiographies have been redefined as a microhistory of human remains (Hosek 2019). Microhistory is a useful mode through which to challenge dominant narratives within discourses (Hosek 2019). Osteoarchaeology has provided evidence that people with congenital impairments did survive into adulthood, directly contradicting the idea that Roman society practiced infanticide on everyone born with physical impairments (Laes 2018). A microhistory exploring this further would help challenge the dominant narrative within Roman disability studies – infanticide.

The osteobiography, as a form of microhistory, should switch between individual and sample level analysis, in order to move beyond the remit of a case study, to a relational and multi-scaler inquiry (Hosek 2019; Hosek and Robb 2019). This multi-levelled perspective benefits from an interdisciplinary approach. Bioarchaeological data can augment the historical record, and vice versa; the improved integration of disciplines that study the past, can only strengthen all participants (Morris 1992; Gowland 2017b). The above discussion has crossed ancient history, classical and art historical disciplines to show the broad themes prevalent in Roman studies of disability. The inclusion of osteoarchaeology allows for the discussion of the impact upon the individual and offers the best chance to understanding the lives of the vast majority of people living in the past (Robb et al. 2019). In this project, a multi-scaler analysis is achieved through the combination of Hawkey's (1998) clinical narrative of an individual, with Robb's (2002) population-level osteobiography which is firmly contextualised environmentally and socially. In this thesis this approach is referred to as an integrated osteobiography, which, like a microhistory, aims to explore macro-scale histories and their impacts on a human level (Hosek 2019).

Chapter 4 The context of study: Alington Avenue

Chapters four and five offer an in-depth account of the methods and materials used throughout this thesis in order to produce integrated osteobiographies and discuss dis/ability in a Romano-British context. The following chapter describes the context of Roman Dorset, and the site of Alington Avenue more specifically. The selection of an archaeological site to study was largely governed by pragmatic issues of accessibility. This project required that the site's human skeletal collection, archive and excavation photography were directly accessible at the time of study. A site needed to have: a minimum sample of 30 well preserved human skeletons, aged over four years old at time of death, dating to the 3rd-4th century AD. Another critical factor influencing the site selection was the presence of varied palaeopathology, so that the model of dis/ability as a continuum might be explored.

Along with the cemetery context data, additional archaeological information concerning the lived environment is invaluable. These data can be used to contextualise the lived experience of impaired individuals and their communities. Through the principles of phenomenology (see Tilley 2004), it is postulated that some insight into the lived experience and interaction of the landscape can be reconstructed. Studies exploring experience in locations, such as Pompeii, have highlighted the effect that differing status and identity had on an individual's interaction with urban architecture (c.f. Laurence 2017; Russell 2016). For example, Laurence (2017) expanded the study of experiences within an urban landscape, beyond the usual adult male perspective, to consider that of children, assessing how their smaller stature impacted their experience. This project takes inspiration from Laurence (2017), applying his approach in order to consider known examples of impaired bodies within a known landscape. Establishing a complete lived experience of an impaired body will always be a desideratum, especially as each individual case will be different. Insight can be drawn through consideration of the known landscape's attributes and its potential impact on a specific individual. Furthermore, the input from anthropological sources such as Howe's (2011) description of the sensory experience of living with a different, impaired body can prove insightful. Therefore, knowledge of the surrounding landscape is key to allowing this type of discussion to take place. The remainder of this section describes and evaluates the cemetery site of Alington Avenue and its broader context of the county of Dorset, describing its suitability as the focus for this study.

4.1 Roman Dorset

Figure 4.1 - Map of Roman Britain with road network and location of Dorchester (Durnovaria) highlighted. Source: wikicommons (CC BY-SA 3.0).

There is a good corpus of information available about the historic climate and environment of Dorset. From 80 AD onwards, the climate was dominated by cold and wet periods (Redfern 2008: 165). The landscape was a '*mosaic of grasslands, woods, heath lands, and fields*' dissected by three major rivers: the Avon, the Stour and the Frome (Redfern 2008: 165; Hamlin 2007). Geologically, the majority of the county sits on the Chalk downs (Hamlin 2007). The hinterland of Dorchester, where Alington Avenue is located, existed as part of a complex and dynamic landscape, with varied ecological zones (Allen 2002). This, and the resulting available natural resources, made the area an attractive prospect for inhabitation, consequently, becoming an archaeologically rich landscape (Allen 2002).

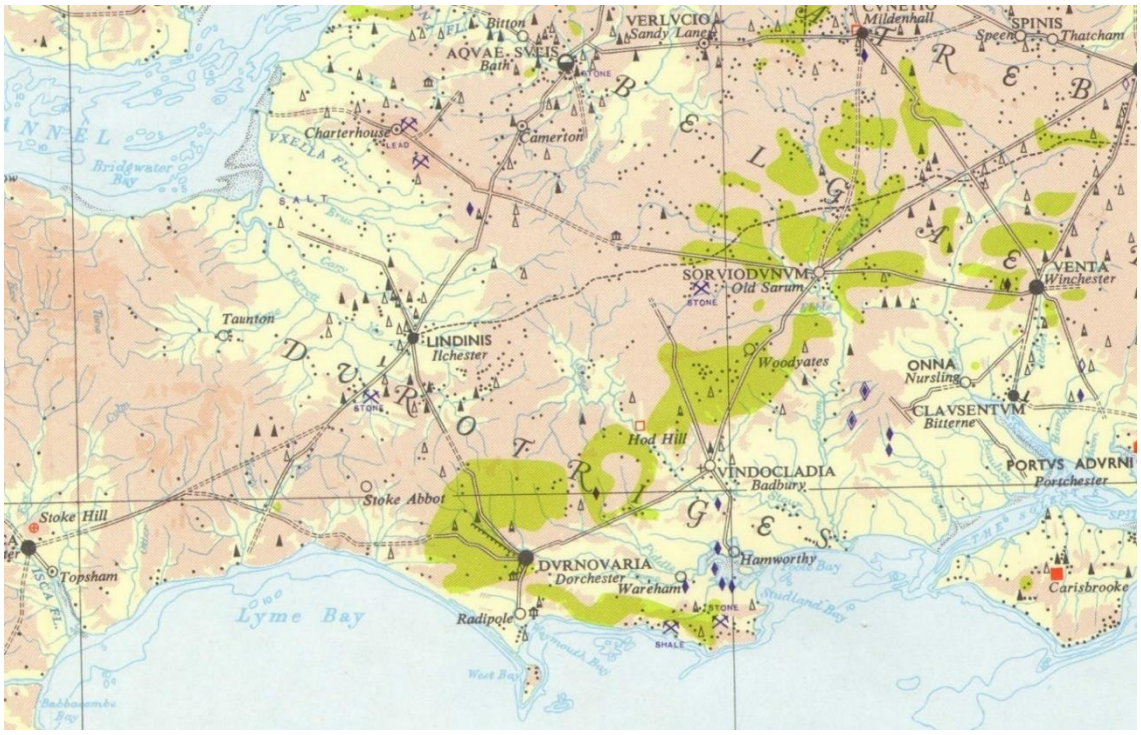

Figure 4.2 - Section of 1956 Ordnance survey map of Roman Britain scale 1:10,000000, showing Dorset and surrounding region. Source: Ordinance survey (Public Domain).

Dorset has undergone periods of repeated habitation since the Neolithic, so that by 43AD the landscape was already marked by human manipulation (Putnam 2007). The Roman conquest mainly affected the British landscape in the form of urban development and the imposition of a road network which, in the case of Dorchester, connected the town to other key centres such as Exeter and Bath (Putnam 2007; see figure 4.1). The town of Dorchester (known then as *Durnovaria*), founded circa 65AD, eventually replaced hill-forts, such as Maiden Castle, as the local centre of commerce (Hamlin 2007). Dorchester has been identified as a *civitas* capital, which is the lowest form of urban centre in the Roman system (Mattingly 2007). This status has led to some underestimation of the region's importance. Dorset was, however, the centre of the Kimmeridge shale and black burnished ware industries (Eckardt 2014; Putnam 2007). Due to the town's continued later use, much of the Roman archaeology has been lost, especially as the result of Medieval inhabitants quarrying the Roman architecture for resources (Putnam 2007). Despite this, several archaeological excavations have explored Roman Dorset, particularly Dorchester (c.f. Durham and Fulford 2014; Smith 1993; Woodward et al. 1993). The town had a number of typical Roman urban features, such as a forum, an amphitheatre, public bath houses, a water supply through an aqueduct system, and Roman style town houses (Durham and Fulford 2014; Mattingly 2007; Putnam 2007; Smith 1993; Redfern 2008; Woodward et al. 1993). Over time the town developed, with early wooden buildings being replaced with brick and stone structures (Putnam 2007; Redfern et al. 2010). The continued investment implies persistent use of the town and that

the urban space was not just an imposition from an overarching authority, ignored and unappreciated by the population, but a space that was utilised and maintained.

The greatest archaeological resource from Dorset, at least in the context of this study, comes from the 13 sites found to contain Romano-British human skeletal remains. The skeleton sample size within these sites ranges from a single individual, found at Littlewood Farm, to over 1200 individuals, excavated at Poundbury Camp (Redfern 2008). A key factor that has made Dorset advantageous to osteological research has been the excellent levels of preservation. This is the result of the cretaceous chalk underlying much of the county, causing high levels of calcium in the soil that in turn inhibits the leaching of calcium from the skeletal material (Hamlin 2007).

A considerable proportion of the research, undertaken using the human skeletal collections from Dorset, has involved studying the effect that the Roman invasion had on the Dorset natives, the *Durotriges*. 'Romanization' is the label given to cultural changes that occurred as a result of Roman influence and is a major theme in Romano-British academia (c.f. Keay and Terrenato 2001; Millett 1992; Webster 2001). The material from Dorset is ideal for these discussions because of the continued use of inhumation rites from the Iron Age into and throughout the Roman period, which is a unique feature of the region (Philpott 1991; Redfern 2008). Evidence for the local reception of Rome is ambivalent. There is little indication of a long-term military presence in the county (Redfern 2008), although there is osteoarchaeological evidence of increased violence in female and juvenile remains that has been interpreted as an indication of resistance to Roman rule (Redfern 2013). Studies concerning Romanization in Dorset have presented a complex picture, with indigenous and Roman practices co-existing, such as those relating to child-rearing (Redfern and DeWitte 2011a).

Urbanisation is often viewed as evidence of increased prosperity within a region; indeed, during the Roman period, the Durotriges' mixed agricultural economy rapidly expanded with more cultivated land, larger herds and greater exploitation of resources to support iron working, pottery, tile production and salting (Redfern 2008). Yet features of urban living, such as denser communities and increased migration, can impact health detrimentally, not in the types of diseases manifesting, but rather in the modes of transmission and frequencies of disease (Redfern 2003). Dorchester, like other Roman urban centres, was an unhygienic environment. This is attested by evidence of internal parasites found in gypsum burials at nearby Poundbury Camp (Jones 1993). Specifically, evidence of whipworm (*Trichuris trichuira*) and roundworm (*Ascaris lumbricoides*) were found, which are known to cause dysentery (Jones 1993). These types of parasites are the result of food contaminated with faecal matter, and therefore, are linked to limited hand washing and/or the use of human waste as fertiliser (Mitchell 2017). It would

therefore seem that, despite improved water supply and bathing facilities in Dorchester, issues relating to poor hygiene remained. How far the population of Dorset became urbanised has been contested, it being claimed that even sites very close to Dorchester retained their rural qualities (Redfern et al. 2010). The rural character of a site has been demonstrated to be a factor that affected life experience, with differences identified in health, demography and mortality between the rural and urban burial populations of Roman Dorset (Redfern et al. 2015).

The general health of the population is key contextual information when studying impairment and dis/ability. Health is described as the '*state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity*' (World Health Organisation 1948). Information concerning the general health of a population can offer insight into what typical bodily experiences were, to which an impairment's impact can be compared. In general the skeletal material from Roman Dorset has suggested a decline in health when compared to their Iron Age counterparts. Lewis (2010), in her study of sub-adult remains, found high incidences of *cribra orbitalia*, rickets and scurvy which are all conditions associated with poor nourishment and health. Additionally, Redfern (2005; 2008) has identified an increase in the number of cases of tuberculosis in the Dorset area, likely the result of poor hygiene and migration. The decline in health has often been attributed to urbanism, however Pitts and Griffin's (2012) inter-cemetery study showed the opposite trend, that poorer health was exhibited in rural locations, so perhaps other factors were in play. There is some evidence for different health experiences between the sexes, with female skeletons exhibiting higher incidents of metabolic disease (Redfern 2003; 2005; 2013). Despite this, there is little evidence for preferential treatment of men, with women seeming to have equal access to food and medical treatment (Redfern 2003). Status also has been found to have been a factor that changed health experience, with skeletons buried in high status burials having a generally lower mortality risk (Redfern and DeWitte 2011b). Studies of Roman Dorset skeletal assemblages have shown that health was a variable state, subject to a number of factors. The studies also reiterate the fact that the typical experience at this time was not necessarily that of a completely healthy body, which has implications for perceptions of impairment and overall dis/ability experience.

This thesis especially benefits from the strong research undertaken into the study of diet in Roman Dorset. In the Roman period, people did not necessarily have to hunt and gather food directly, meaning, for example, a person's procurement of meat was not limited by their physical ability to hunt. Instead, differential access to food was the result of other cultural and social processes. So, if an individual with an impairment is shown to have had a different diet to their peers, this could be interpreted as a social consequence of their impairment. Faunal evidence has shown a strong preference for terrestrial domesticated animals such as chickens, pigs, cattle and

sheep, with wild resources forming only a small proportion of people's diet (Redfern 2013). The Roman period introduced new crops and imports such as plums, cabbage, cherries, grapes, hazelnuts, peas, beans and pears, to name a few (Redfern 2008; Redfern et al 2010). Richards et al. (1998) used material from Poundbury Camp to provide an early isotopic study of diet, which demonstrated status-based differences in diet. Further isotopic studies of skeletal material from the Dorset region has identified dietary variation linked to status and gender (Redfern et al. 2010). This solid foundation of isotopic study of diet is ideal for the current project, as it means that some of the data collection has already been done. Dietary isotopic data from a total of 49 Roman Dorset skeletons are available, including individuals with exceptional palaeopathology (Redfern et al. 2010; Redfern et al. 2012). This does not include Richard et al.'s (1998) sample, however, which does not meet the more recent standards required (Müldner 2013). The research discussed above forms a strong backdrop for this current endeavour.

4.2 Alington Avenue

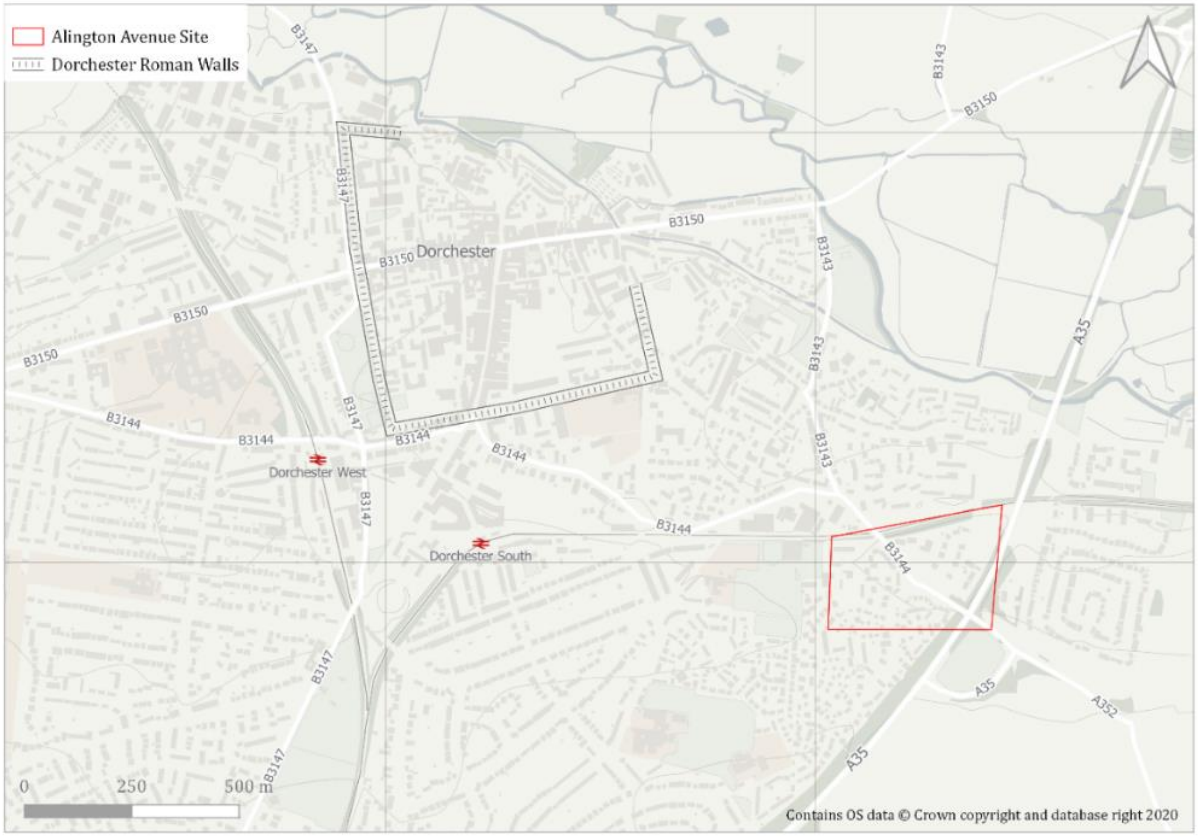

Figure 4.3 - Map showing the location of Alington Avenue in relation to the town walls of Dorchester. Source: Crown copyright (2020).

This project focuses on Alington Avenue, a cemetery site home to over 100 burials, which were excavated in 1984-1987 (Davies et al. 2002). Alington Avenue lay less than a kilometre away from the town walls of Durnovaria, beside an approach road to the town, a common cemetery feature of Roman town planning (Davies et al. 2002; see figure 4.3). Represented in the cemetery were two distinctive burial traditions; the earlier native 'Durotrigian', a simplistic burial form with the body crouched, and the later Roman, characterised by more frequent coffin use and supine body posture. There were also three Romano-British cremation burials, which represents a minority practice in Roman Dorset. The inhumation preference of this area, however, is in contrast to the overall patterns exhibited elsewhere in early Roman Britain, where cremation was the dominant practice (Philpott 1991).

The focus, for the purposes of this study, are the 91 extended inhumation burials dated to the Roman period. Most of the graves are located in relation to the ditches of a D-shaped enclosure (Davies et al. 2002). The majority of the graves contained typical inhumation burials, with little in the way of elaborate grave structures or goods (Davies et al. 2002). Alington Avenue lay on the boundary between the town and the countryside, which has resulted in much of the debate, surrounding the site, discussing its classification as either an urban or rural cemetery. Alington Avenue shares features with other urban cemeteries in the vicinity, such as Poundbury Camp, leading to the conclusion that the cemetery served the town (Davies et al. 2002). In contrast, Redfern (2008) labels the site as rural. Yet in the context of Alington Avenue, it would seem that even if the interred community were rural based, the proximity of the cemetery to the town means that some interaction between the population and the urban centre is almost certain. Davies et al. (2002: 146) argue that the broad demography of the burial population, in relation to age and sex, suggests that the cemetery at Alington Avenue served the members of a relatively small community over a considerable period of time.

The dominant religion of a Roman cemetery site has also proved a persistent topic for discussion (Sparey-Green 2003; Watts 2014). The identification of religion could be argued to be of particular relevance to the study of dis/ability, as the general Roman conversion from Pagan to Christian beliefs changed attitudes towards people with impairments. For example, Christian beliefs did not allow the practice of infanticide, having a clear consequence on the potential survival of infants with impairments (Southwell-Wright 2014). The nearby cemetery of Poundbury Camp is one of the clearest examples of a Christian cemetery, with: a lack of grave goods, a consistent east – west burial alignment, and some evidence of Christian iconography (Sparey-Green 2003; Watts 2014). Alington Avenue lacks the latter two of these attributes, therefore, by contrast, seeming more pagan. It is noteworthy, however, that examples of gypsum burials have been identified at Alington Avenue, a noted Christian rite (Davies et al. 2002; Sparey-Green 2003). It should be

remembered, however, that the binary division between Pagan and Christianity is likely to be an over-simplification. The conversion to Christianity in the Roman Empire was a slow transition. Pagans and Christians likely co-existed for a long time. Creolisation was adopted as a concept by Webster (2001) to describe the cultural change post Roman conquest, not as a replacement or imposition of one culture onto another, but as a merging of two cultures. Webster (2001) observed examples of this phenomenon in the merging of Celtic and Roman religions. It does not seem a big leap to suggest that a similar process occurred with the later Christian influence. The idea of creolisation between Pagan and Christian religions deserves more attention than there is time for here. The salient point in relation to this project is that religions, and their associated rituals, can co-exist not only within a population, but within individuals, without seeming contradiction. For example, the practice of placing coins in the mouth of the deceased, and in so doing providing Charon's obol, has been recognised in Christian graves (Stevens 1991). Therefore, the assignation of a religious label to a cemetery site may be an unhelpful process.

The main issue that presents at Alington Avenue is the lack of secure dating from artefacts and stratigraphy (Davies et al. 2002). Consequently, a continual tradition of burial at the site has been proposed but is difficult to demonstrate (Davies et al. 2002). Most later Roman graves from the site have been so categorised with a good degree of confidence, although some un-coffined burials have been dated based only on their location. Alington Avenue's skeletal collection was analysed and reported by Tony Waldron in 1989 (Waldron 2002), meaning some of the methods could usefully be updated. Generally, the skeletons are well preserved, but some had a good deal of surface damage to the bones and many had post-mortem breaks (Waldron 2002: 147). There is evidence of some degree of disturbance in 22 burials because of the presence of intrusive bones (Waldron 2002).

A wide portfolio of palaeopathology has been found in the Dorset skeletons making the region a prime location in which to study impairment and dis/ability. Alington Avenue has already been highlighted as a place of interest to a study of disability, but not fully explored, attesting to its suitability for this thesis (Molleson 1999; Southwell-Wright 2014). Studies concerning several aspects of identity, such as gender and status, have already shown that the Dorset area is fertile ground for such research. This is useful because, although this thesis focuses on dis/ability, it ultimately forms part of an overall personhood. Discussing an aspect of identity in complete isolation is folly as it would constantly interweave and negotiate with other facets of identity (Marshall 2012), and therefore this entanglement of identity traits needs to be considered.

Dorset is a unique region in Roman Britain which raises the question of how representative a sample it produced. Many of the unique features of the Dorset assemblages already discussed

have proved useful in research, such as the longevity of the inhumation burial rite; however, is this also evidence of an oddball region? It is encouraging that other studies have noted the validity of Dorset as an area of study, as other inter-cemetery studies have compared nearby Poundbury Camp on a national (Pitts and Griffin 2012; Redfern and Roberts 2005) and international level (Prowse et al. 2004).

This section has aimed to demonstrate the potential of Alington Avenue as part of a study of dis/ability and impairment in the Roman period. The extensive research conducted in the region so far has been discussed, it being concluded that much of it will provide invaluable contextual and background information, particularly the studies concerning the health and diet of the general population. The continued research in the area has meant that the material has been reanalysed on several occasions, and new methodologies used to update the information gleaned at excavation, which is also valuable. It is noted that the sample may be unrepresentative. The potential of the material in this region, however, outweighs the negatives particularly because of the good levels of preservation, and the varied and comparatively high levels of palaeopathology which forms the bedrock of this study.

Chapter 5 Methods

The methodology involved a double strategy, using both osteology and mortuary archaeology, to glean perspectives from an individual and population level; both these perspectives are required to study dis/ability. In broad strokes, the osteology presents data that reflects the biology, life and the experience of the individual; the mortuary archaeology represents the reaction to death and the viewpoint of the general community towards the deceased. It is insufficient to focus solely on the skeletons of known impaired individuals; their experience needs to be contextualised and compared with that of their contemporaries. Chapter five describes, in detail, the practical methods that were employed to obtain the necessary data for the osteobiographies, including an evaluation of the methodologies used, and a justification for why they were chosen. The segment is divided into three sub-sections discussing: the osteological methods, the mortuary archaeology analysis and the process of compiling and creating integrated osteobiographies and fictive narratives. The overall aim of this chapter is to communicate the process clearly enough as to make replication possible.

5.1 Osteological methods

The methods selected were those that were deemed successful during the pilot study phase of research. The pilot study was conducted using the Huntman's Quarry Romano-British human skeletal collection, housed at the University of Southampton. The pilot study was used to finalise the skeletal analysis methods chosen for the data collection. The majority of recording methods follow standards produced by Buikstra and Uberlaker (1994), removing the need for inter-observer tests. The pilot study served to practice the transition ageing technique developed by Boldsen et al. (2002) and to test the intra-observer error. From the pilot study, the following osteological methodology was developed.

5.1.1 Sample selection

A sample of 30 suitable skeletons minimum was deemed necessary to allow for statistical analysis to be carried out (Madrigal 2012). To qualify for inclusion into the sample, a skeletal specimen had to fulfil the following eligibility criteria:

a) Skeleton was found articulated in an inhumation burial from a secure context.
b) 75% or better level of preservation or Buikstra and Ubelaker (1994: 7) category 1 known as 'complete'.

c) Skeleton to be dated to 3rd-4th century AD

d) Individual to have been aged over 4 years old at time of death.

The criterion for inhumation remains implicitly excludes cremation remains from the study sample. This decision was made as reliable diagnoses of pathological conditions require near complete skeletons; the process of cremation destroys much of the palaeopathological dataset from which impairments can be diagnosed (McKinley 2000). This has clear implications for the application of this methodology to other contexts, such as late Iron Age to early Roman period Southeast Britain where cremation burial was the dominant funerary rite (Mattingly 2007). Although cremation burials have been used to investigate palaeopathology, Novacek and Schultz (2021) explicitly state that the results of these studies cannot be compared with frequencies or diagnostic possibilities in inhumations. For this reason, cremation remains are excluded from the sample selection for this study, although awareness of these burials at sites is useful, as reasoning behind selection of a different burial rite to the majority of a burial population has to be important, even if unknown to us. The latter criterion was applied because, in the majority of cases, palaeopathology, and therefore impairments, do not manifest in the skeleton until after a long period of endurance (Lewis 2007). Additionally, in a number of studies, the mortuary practices relating to infant remains in Roman Britain have shown very differential patterns to the rest of the population (c.f. Carroll and Graham 2014; Millett and Gowland 2015; Moore 2009a). The study of disability and Romano-British infants is dominated by the infanticide debate (see chapter 3.1). Although these themes would present a compelling topic for consideration, the factors stipulated mean that the study of infant remains is beyond the scope of this project.

5.1.2 Recording methodology

All data was recorded on specially designed forms developed through an amalgamation of recording sheets following Buikstra and Ubelaker (1994), Mays et al. (2004) and Milner and Boldsen (2011), all widely accepted within osteoarchaeology (see Appendix A). The forms were adapted, after the pilot study, to better suit the research, utilising both pictorial and written recording techniques. Data was later transferred into an Excel spreadsheet (Appendix B). The osteological data collected are detailed below:

- **Element inventory**

  The preservation of each element (on each individual side, where appropriate) was graded 1-3 (1 being complete, 3 being poor). The location of taphonomic damage was also recorded. The skeletal and dentition elements were recorded following Mays et al. (2004) unless otherwise stipulated below:

- Hand and foot phalanges were not sided or separated (unless palaeopathological changes demanded closer observation).
- Ribs were not numbered, with exception of the first rib. The number of rib heads present and overall preservation levels was recorded (unless palaeopathological changes demanded closer observation).
- Cervical (3-7), thoracic and lumbar vertebrae were not assigned an exact anatomical place. Instead the number present was recorded (unless palaeopathological changes demanded closer observation).
- Dental measurements were not taken.

- **Age at death determination**

  Observations were made, where possible, to assess age at death. In adults: transition age analysis (Milner and Boldsen 2011), auricular surface morphology (Buckberry and Chamberlain 2002) and dental attrition (Brothwell 1981), were used in this order of preference. In juveniles: observation of the epiphyseal fusion (Scheuer and Black 2000) and dental development (AlQahtani et al 2010), were used in tandem, as required (see section 5.1.5).

- **Sex determination**

  Observations were made of sexually dimorphic characteristics of the cranium and pelvic girdle following Phenice (1969) and Ferembach (1980), as outlined in Buikstra and Ubelaker (1994) (see section 5.1.3).

- **Metric measurements**

  For metric measurements the following equipment was used: electronic callipers (Mitutoyo), an osteometric board (Paleo-Tech Concepts) and a mandibulometer (Paleo-Tech Concepts). Measurements were recorded in millimetres. Cranial measurements were taken on the left side unless otherwise stated. Post-cranial measurements were taken from both sides. Metric measurements were only taken from adult remains and only if the area being measured was unbroken. No attempt was made to reconstruct bones for measurement. Measurements taken were following Mays et al. (2004) (See appendix C).

- **Pathology**

  All pathology was recorded in detail, including location, size of area affected etc. Photographs of pathology were also taken. Common pathologies were recorded separately using the specific standards detailed below:

  - Osteoarthritis – observed in the vertebrae and joints, was graded following Brothwell (1981: 150).
  - Dental pathology – including incidence of ante-mortem tooth loss, calculus, carious lesions etc. were graded following Brothwell (1981: 155).

- *Cribra orbitalia* – was graded following Brothwell (1981: 165).

5.1.3 Adult sex determination methods

Due to the completeness of the individuals selected and the need for rapid, non-destructive analysis, it was decided that only macroscopic analysis involving the pelvic girdle and the cranium need be applied. Analysis of sexually dimorphic traits was only attempted for individuals assessed to be 18 years old and over. Using Buikstra and Ubelaker (1994: 21), the skeletons were designated as one of the following:

- Male (M)
- Probable male (M?)
- Female (F)
- Probable female (F?)
- Undetermined sex (?)

The sexually dimorphic traits of the pelvic girdle studied are listed below, using the methods described in Phenice (1969). Scoring ranges are stipulated in the brackets, in all instances the lower numbers refer to feminine traits and higher numbers refer to the masculine:

- Ventral arc (1-3)
- Subpubic concavity (1-3)
- Ischiopubic ramus ridge (1-3)
- Greater sciatic notch (1-5)
- Preauricular sulcus (1-4)

The cranial sexually dimorphic features analysed, following Ferembach (1980), are listed below. Next to each trait is a score range, in all instances the lower numbers refer to feminine traits and higher numbers refer to the more masculine form:

- Nuchal crest (1-5)
- Mastoid process (1-5)
- Supraorbital margin (1-5)
- Prominence of the glabella (1-5)
- Frontal (1-2)
- Mental eminence of the mandible (1-5)

5.1.4 Sex determination techniques in human skeletal remains

The pelvic girdle is the most sexually dimorphic feature of the human skeleton; female bodies having adapted to the needs of childbearing (Bruzek and Murail 2006; Meindl et al. 1985).

Consequently, analysis of the pelvic girdle is the most reliable method of morphological sex determination in skeletons, with an estimated 95% accuracy, significantly higher than any other single skeletal element (Murail et al. 1999; Rogers and Saunders 1994; White et al. 2012). Due to this higher level of accuracy, where there is conflicting data from two equally preserved elements, precedence is given to that gleaned from the pelvic girdle.

The cranium does not have the same sex-specific selection pressures as the pelvic girdle. As a result, the cranium exhibits a smaller, less consistent level of sexual dimorphism (Bruzek and Murail 2006). Nevertheless, some secondary traits of the skull can differentiate between the sexes. These traits are related to the tendency for males to be more robust than females (Walrath et al. 2004; White et al. 2012). There is a high agreement rate of sex determination between complete skulls and pelvic girdles (Maat et al. 1997).

Studies have found sexually dimorphic traits in other elements of the skeleton, most notably the molar dentition and distal humerus (Falys et al. 2005; Rogers 2009; White et al. 2012). This has great application for poorly preserved remains, however in this study, where 75% or better preservation was required, the pelvic girdle and cranium - based methodologies were deemed sufficient.

The identification of sex in juvenile skeletal remains has long been a holy grail in osteoarchaeology (Lewis 2007). Sexually dimorphic traits begin to develop at the onset of puberty. Therefore, biological sex determination of pre-pubescent skeletons is very difficult (Lewis 2007). Numerous studies have attempted to create a methodology, but as yet no morphological trait has been found to have a satisfactory success rate (Molleson et al. 1998; Schutkowski 1993). Instead DNA analysis of sex is an option within juvenile remains (Stone et al. 1996; Tuross and Campana 2018), but does not always yield results, is destructive and financially costly, and therefore beyond the scope of this study. The analysis of sexually dimorphic tooth peptides is a promising avenue for future studies, but to date has yet to be widely tested, and although argued to be more cost-effective than DNA analysis, still has financial implications (Stewart et al. 2017). Due to these issues, sex determination was only attempted in skeletal remains estimated to be over 18 years old at time of death.

Advancing age modifies the expression of sex in the skeleton. For example, males and females display increasing masculinization of the greater sciatic notch as they grow older and females develop more robust crania after menopause (Gellar 2008). This has been claimed to cause an over-estimation of males in older populations (Kjellström 2004; Walker et al. 1988; Walker 1995). The pelvic girdle is less prone to this issue, and therefore, is the reason why it should be used as the primary element of sex determination (Rogers and Saunders 1994). There are specific

environmental and cultural factors that can vary sexual dimorphism between populations. When sufficiently large samples are available, seriation is useful in order to judge sexual dimorphism within the specific context (Meindl et al. 1985). In this instance, however, the sample was too small to seriate and general standards of sex estimation were applied. The two-sex model proscribed in osteological analyses of sex dimorphism reflects modern Western ideas, not necessarily applicable for the past (Gellar 2008). In addition, the sex determination analyses do not allow for consideration of people who did not fit within this limited framework, such as intersex conditions (Gellar 2008). Gellar (2008) describes how the leap from sex determination to social identity and behaviour inference has often been made uncritically. Osteological analysis forms a useful axis of analysis, but for the purposes of this thesis, gender is a social constructed entity distinct but linked to biological sex (Gellar 2008).

5.1.5 Age at death determination methods

To determine age at death, different methods were used for juvenile (under 18 year olds) and adult (18+ year olds) remains. To age juveniles, the dentition growth and epiphyseal fusion progress were observed (AlQahtani et al. 2010; Scheuer and Black 2000). In contrast, ageing adult remains relied on the analysis of wear patterns in the: cranial sutures, pubic symphysis, auricular surface and dentition (Brothwell 1981; Buckberry and Chamberlain 2002; Milner and Boldsen 2011). Individuals were grouped into age categories following Booth et al. (2010: 340), although as the juvenile category totalled three individuals, these were grouped together. It is notable that the categories for older adults and much older adults listed below overlap. This reflects the ageing techniques. Brothwell's (1981) dental attrition ageing technique's highest age group category is 45+ years. Transition ageing is the preferred methodology used due to its ability to discern higher age categories, however in some instances, the result age estimations are too broad, perhaps relating to poor preservation in the relevant areas of the skeleton. In practice, Brothwell's (1981) method therefore served to fill this gap with the often better preserved dentition. In an ideal world, the older age category would be 45-60 years of age, but the limitations of the dentition methodology, means that sometimes much older individuals will be included in this group. These categories are used throughout the document:

- 0-18 years (juvenile)
- 18-25 years (young adult)
- 26-35 years (prime adult)
- 36-45 years (mature adult)
- 45+ years (older adult)
- 60+ years (much older adult)

5.1.6 Determining age of death in human skeletal remains

Growing juveniles undergo rapid body changes, therefore, age at death estimation of child skeletons is far more precise (Brothwell 1981). People are biologically adult at aged approximately 18 for females and 19-20 for males (Martin et al. 2014). The two main methods of juvenile ageing involve analysis of dental development and epiphysis union. The former is most useful for individuals under the age of 10, and the latter for juveniles aged 10 to 20 years, which is how the methods were applied in this study. The development of teeth in juveniles is a long process, which has been mapped over time, so that an individual's age can be estimated from the stage of development their dentition has reached. Dental development loses its effectiveness as an age indicator after the eruption of the second molar (around 15 years); this is because the timing of the third molar's eruption is highly variable (AlQahtani et al. 2010). The epiphyses in juvenile bones are unfused to allow the limb to grow to adult size. Different limbs fuse at different ages, hence the observation of epiphyseal fusion can be used as an age estimate (Scheuer and Black 2000). Although it is worth noting that certain conditions can cause the premature fusing of epiphyses, such as dwarfism, rendering the age estimation technique unusable in these cases. Ossification and fusion ages were obtained following Scheuer and Black (2000).

It is noted that a methodology has been developed to estimate a puberty stage based on the maturation of multiple skeletal elements including the: canine roots, hamate hooks, hand phalanges, iliac crests and cervical vertebrae (Shapland and Lewis 2013; 2014). This methodology has potential to add useful details particularly to individual osteobiographies. In the context of this study, the methodology had limited application. The fusion of the iliac crest helped confirm that menarche had been achieved (Buehl and Pyle 1942), but only one specimen was assessed to be possibly going through puberty at time of death (AA1089). In this case, the elements required for puberty stage assessment were mostly missing, making further exploration not possible. Therefore, the methodology was not further explored.

Most of the visible age-related changes in adults, such as wrinkling skin and greying hair, are invisible on archaeological remains (Appleby 2017). After the body has fully grown, ageing methods focus on analysis of skeletal degeneration, which lacks a one-to-one relationship between skeletal changes and chronological age (Appleby 2010). Ageing adult skeletons is therefore much less precise than ageing juveniles. Skeletal degeneration is subject to significant variation within and between populations (Appleby 2017). For a long time, ageing adults in British skeletal collections relied on Don Brothwell's (1981) dental attrition methodology, the oldest category in which is 45 years and older. This has perhaps led to the misunderstanding that people in the past simply did not live to older age, a misapprehension which can still be found in modern

scholarship (for example see Harris 2016: 8). The two key elements that are used to estimate age at death in adult remains are the pelvic girdle and dentition. It is believed that age determination methods tend to result in the over-representation of young adults and the under-representation of over 50 year olds (Milner and Boldsen 2012). Age estimation is highly dependent on a good state of preservation in terms of the elements present and taphonomic condition.

The main ageing methodology utilised in this study was the transition ageing method developed by Milner and Boldsen (2011; 2012; Boldsen et al. 2002). This is a relatively new method that utilises several different traits in the cranial sutures, pubic symphysis and auricular surface to create a composite age estimation using a specifically designed Bayesian software package called ADBOU 2.1 (2002). This method is useful because it does not require all the characteristics to be present in order to gain an age estimation. Occasionally, however, the age estimation given is wide ranging. This methodology has been found to have a fairly good degree of success, particularly for identifying older individuals (Maaranen and Buckberry 2018; Milner and Boldsen 2012). In the instances that the transition age method was insufficient, due to element preservation or imprecise results, other methods were utilised.

Other age estimation techniques also involve the study of the auricular surface (Buckberry and Chamberlain 2002; Lovejoy et al. 1985) and pubic symphysis (Brooks and Suchey 1990; Buikstra and Ubelaker 1994; Todd 1920). These approaches have been well tested for efficacy with mixed results (c.f. Mulhern and Jones 2005; San Millán et al. 2013). Buckberry and Chamberlain's (2002) methodology focused on the auricular surface, because they found the pubic symphysis tends to be more fragile. Their age determination method is very accurate, but inexact and imprecise, due to the large ranges it estimates. The method also requires that all the characteristics described are preserved to get a result. In practice, therefore, if the taphonomy in the pelvic girdle meant transition analysis was not useful, then it is unlikely the other pelvic girdle based methods are applicable. Instead Buckberry and Chamberlain's (2002) method served to check and consolidate the transition ageing results. Age estimation techniques over rely on traits in the auricular surface and pubic symphysis for ageing, which are prone to taphonomic damage (Milner and Boldsen 2012). In effect, therefore, the main alternative methodology was analysis of dental attrition (Brothwell 1981). Brothwell's (1981: 72) technique is the most widely used ageing method in British samples, due to teeth generally preserving well. Brothwell's (1981) approach, however, cannot offer specific age estimates for the older and much older age groups, with the highest age estimate possible being 45+ years old. The dental wear ageing method has been recently evaluated and found to be a robust approach for use in Prehistoric to Medieval archaeological populations from Britain (Field 2019).

Finally, it should be noted, that much like the distinction made between sex and gender, and impairment and disability, there is a noted difference between chronological and social age. The age determination techniques described here only relate to the chronological, biological aspects of age, which is distinct from cultural attitudes towards individuals at that time of life (Harlow and Laurence 2002). Chronological age is not the primary determinant of age identity in many non-literate societies (Appleby 2010), instead, changes in the body's physiology and its abilities are used to determine age (Appleby 2010). Society's perceive age differently and so the age estimations calculated from the skeletal remains of distant societies need to be understood as a helpful analytical tool, but not necessarily a reflection of how any individual perceived themselves or was perceived by others.

5.1.7 Calculation of stature

Males	error	Females	error
1.31 (Fem + Fib) + 63.05	*3.62*	0.68 Hum + 1.17 Fem + 1.15 Tib +50.12	*3.51*
1.26 (Fem + Tib) + 67.09	*3.74*	1.39 (Fem + Tib) + 53.20	*3.55*
2.60 Fib + 75.50	*3.86*	2.93 Fib + 59.61	*3.57*
2.32 Fem + 65.53	*3.94*	2.90 Tib + 61.53	*3.66*
2.42 Tib + 81.93	*4.00*	2.47 Fem + 54.10	*3.72*
1.82 (Hum + Rad) + 67.97	*4.31*	4.74 Rad + 54.93	*4.24*
1.78 (Hum + Ulna) + 66.98	*4.37*	4.27 Ulna + 57.76	*4.30*
2.89 Hum + 78.10	*4.57*	3.36 Hum + 57.97	*4.45*
3.79 Rad + 79.42	*4.66*		
3.76 Ulna + 75.55	*4.72*		

Table 5.1 - Table showing stature equations and standard error of estimate (in italics) developed by Trotter and Gleser (1958; 1952) for male and females from 'white' populations.

Stature is an important indicator of health as well as a highly influential factor that dictates a person's interaction and experience of the world (Gowland and Walther 2018; Nath and Badkur 2002). Statures derived from long bone length bear the closest relationship to standing height and thus are the most reliable method of stature estimation (Mays 2010). The stature regression equations below, obtained from Mays (2010: 132), were originally developed by Trotter and Gleser (1952; 1958; 1977) and are still heavily used in osteoarchaeology today (table 5.1). Different equations were developed for males and females from 'black', 'white' and 'Asian' populations, as they have different body proportions (Mays 2010). One must, therefore, have estimated the sex and chosen the equation series that is the best fit for the population before beginning. The equations utilised here are those established for 'white' populations, which may

be the most appropriate selection for a British based population (table 5.1). These stature estimations are used widely, but their reliability has been reported to be mixed (c.f. Formicola 1993; Gowland and Walther 2018). Mays (2016), however, has demonstrated that the equations are efficacious for studies of British osteoarchaeological samples. The stature of children is not estimated because their epiphyses are unfused and the thickness of these epiphyses vary throughout development (Lewis 2007; Redfern and Gowland 2012). These equations are listed in order of preference according to standard errors of the estimates. The results are calculated in centimetres (Mays 2010).

5.1.8 Palaeopathology

Analysis of palaeopathology formed the basis from which impairment was diagnosed from the remains. Palaeopathology was identified using macroscopic, non-destructive methods. All palaeopathology recognised in the skeletal remains was recorded in detail and photographed, except incidences of unexceptional osteoarthritic and dental lesions. Identification of palaeopathology depended on literature such as Ortner (2003), Roberts and Manchester (2010) and Waldron (2009). Lovell's (1997; Lovell and Grauer 2019) approach to the study of trauma was used to identify fracture types. Differential diagnosis was performed after the initial osteological assessment and formed part of the osteobiography. For details on the process of differential diagnosis and dis/ability identification see section 5.3.

5.1.9 Non-metric traits

Non-metric traits (also known as discontinuous, morphological, epigenetic or discrete traits/variants) are expressions of the variation observed in bones and teeth which are used to measure bio-relatedness (Martin et al. 2014; White et al. 2012). Numerous non-metric traits have been identified in the cranial and post-cranial skeleton (c.f. Berry and Berry 1967; Brothwell 1981; Buikstra and Ubelaker 1994; Finnegan 1978). This type of study is sometimes misunderstood within the archaeological community, with it often being used to denote family groups within cemeteries or as indicators of ethnicity (Tyrrell 2000). Analysis of non-metric traits has been under severe criticism and review, as there are no clear standards of recording. Additionally, osteoarchaeologists are yet to understand the genetic basis of the traits' heritability (c.f. Martin et al. 2014; Saunders 1989; Tyrrell 2000; White et al. 2012). DNA studies of the efficacy of non-metric traits have had mixed levels of success (c.f. Ricaut et al. 2010; Tyrrell 2000), but they have suggested that non-metrics can detect outlier groups or large familial groupings in a large number of subjects, but cannot detect close genetic proximities between pairs of individuals (Ricaut et al.

2010; White et al. 2012). For the reasons outlined above non-metric data was excluded from this study.

5.1.10 Palaeodemography

The osteological data collected was not only used to glean insight into individuals' lives but also contributed to a population survey that contextualised dis/ability experiences. Populations that are available for analysis are unlikely to accurately reflect the once living community (Redfern 2010), however, this is what we have. The osteological study of a sample of 37 skeletons from Alington Avenue forms the basis of this analysis. The resulting data was recorded in a spreadsheet (appendix B) and analysed through statistical and graphical outputs using Microsoft Excel and PAST software. The data was used to study population trends relating to age, sex, stature and palaeopathology, and how they interrelate.

For the sake of inter-population comparison, palaeopathology is grouped together into different categories. The pilot study highlighted that back and joint problems should be considered separately, due to their different incidence rates. The palaeopathology groups are as follows:

- Congenital – any pathologies that are apparent from birth, such as dwarfism. Conditions that are medically present from birth but not apparent are excluded from this category to better represent the likely understanding of past communities.
- Dental – any pathologies in the teeth such as ante mortem tooth loss, carious lesions etc.
- Back problems – any pathologies evident in the spine including Schmorl's nodes, osteoarthritic changes etc.
- Infection – any pathologies associated with infection including tuberculosis, sinusitis, periosteal changes etc.
- Metabolic – any pathologies associated with nutritional deficiency or signify generalised health stress, such as anaemia, rickets, enamel hypoplasia etc.
- Trauma – any pathologies that indicate an injury resulting from a trauma such as fractures, amputation etc.
- Joint problems – any pathologies in the joints, such as osteoarthritic changes.
- Miscellaneous – any pathologies that do not fit into any of the above categories.

5.2 Mortuary archaeology analysis

'*The mortuary context is an important indicator of the social body, and it may reveal a great deal about how the society as a whole viewed the individual after death as well as how the body even after death continues to have agency within the society* (Martin et al. 2014: 158).

Burial provision is used as a valuable indicator of social attitudes. Yet, the mortuary context is the result of specific social rituals at special moments in time which are known to provoke exceptional behaviours (for an example see Hope 2017a). It is important to remember that the dead do not bury themselves and so the burial assemblage and the identity-based interpretations relating to them, do not necessarily reflect the choices and self-image of the interred, but is what the burying community has decided is suitable at that time. The burial assemblages present a complex interplay between personal and social identity and the agency of both the deceased and their relatives/community (Appleby 2010).

A key aim of the project is to compare the insight gleaned from mortuary and osteoarchaeological data, in order to assess how far mortuary behaviours reflects the day-to-day. As Joanna Appleby (2010) states in their discussion of the elderly, the careful burial of an older person does not necessarily imply that the same person was were similarly well treated whilst alive. The phrase 'day-to-day' in this thesis is used to infer lived experience, in opposition to the highly ritualised nature of burial and mourning; the latter has been noted to inspire specific behaviour sometimes completely reversing acceptable codes of conduct established for non-mourning periods (c.f. Hope 2017a, b). Periods of mourning and grief have been described as key stages of transition, of social upheaval, where people say farewell to the dead and renegotiate their place in society (Hope 2017b). The 'day-to-day' is used to denote periods of time outside this specific transitional stage, although it must be clarified that periods of social upheaval and transition are not limited to mourning periods, so the 'day-to-day' may also incorporate aspects of social change.

As discussed above, atypical burial analysis has proven pervasive in studies of disability in the past (see section 3.5.6). Atypical burial analysis tends to focus on the extraordinary, helping to establish a binary distinction between atypical and typical burial practice. This hides the range of variability evident in burials, of course no two funerals or burials in the Roman world were completely alike (Graham 2009; Weekes 2016). Studies, particularly involving Anglo Saxon material, have shown that the variation evident within 'typical' burial rites can be meaningful (Mui 2018). Mortuary behaviour needs to be contextualised within the local setting. A rite can be identified as unusual for one site, but more typical at another.

A pivotal part of the mortuary survey involves identifying a range of common burial features, which individual contexts can be compared to. This helps to identify unusual burial provision whilst also showing the variation inherent in mortuary archaeology. A key part of the analysis in this thesis, therefore, involves reconstructing the mortuary context. The analysis is multifaceted, incorporating a number of data sets gleaned from desk-based assessment. The majority of the mortuary data was collected from the site excavation report (Davies et al. 2002).

5.2.1 Survey of mortuary behaviour

The general trends in mortuary treatment need to be ascertained to understand what a typical rite is in that context. Data collected concerning coffin and grave good provision, burial posture, grave dimensions and orientation are analysed to see how these inter-relate with sex, age and palaeopathology of the occupant.

Grave goods are grouped together by functional categories. These categories have been adapted following Crummy (1983), Cool (2004) and Moore (2009b) and are listed below. Some items' functional grouping is different in the mortuary setting when compared to their daily usage, with their categorisation dictated by other factors such as positioning in the burial. For example, a coin placed near the eyes or mouth of a corpse is interpreted as a Charon's obol and therefore performing a religious, votive role (Brown 2008). Shoes found in a funerary context can be taken as either an everyday item of clothing or as a votive item equipping the deceased for their journey to the underworld, or both simultaneously (Moore 2009b; Philpott 1991). Shoes are therefore separated from other items of adornment during analysis. Nails can be interpreted ambiguously; they are often the only material remaining from a coffin however, they have also been shown to have performed a ritual role in some funerary contexts due to their interaction with the corpse (Quercia and Cazzulo 2016). The functional categories are:

- Votive – objects associated with religious belief and practice
- Personal – personal adornments, such as clothing and jewellery, worn on the body
- Drinking – items associated with drinking
- Feasting – items associated with eating, including non-canine animal bones
- Toiletries – toilet, surgical or pharmaceutical instruments associated with personal grooming.
- Household – household utensils and furniture.
- Leisure – objects associated with recreation including writing, toys etc.
- Tools – work related objects
- Military – objects related to the military
- Building – items associated with construction and buildings
- Economic – items associated with economy
- Canine – Dog remains are usually interpreted as either pets or votive offerings (Lepetz 2017; Smith 2006).
- Query – objects of ambiguous or unknown function.

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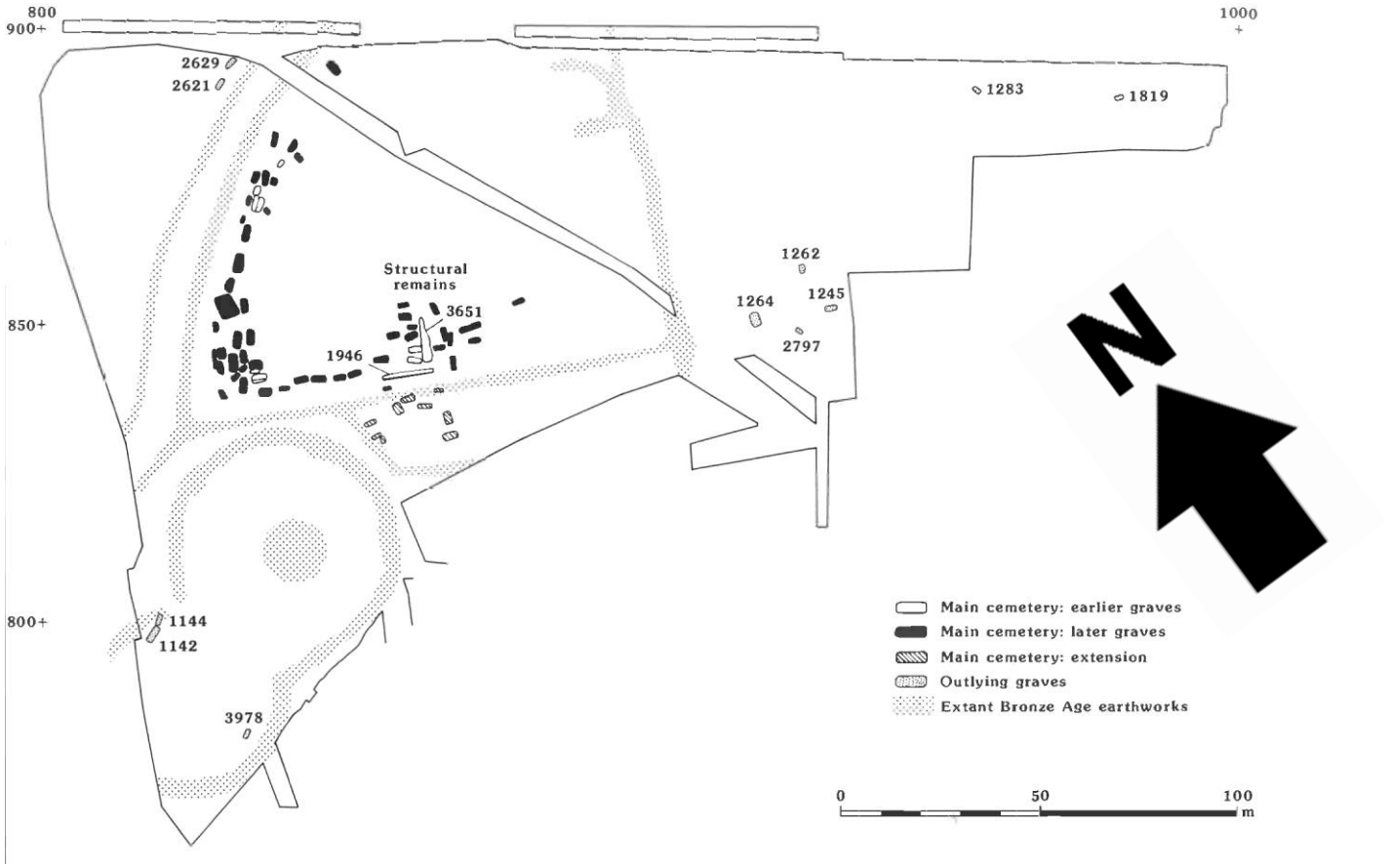

Figure 5.1 - Map of Alington Avenue cemetery site. Source: Map reproduced and altered with permission of Wessex Archaeology and Dorset Natural History and Archaeological Society. Illustrator – Karen Nichols 2002 (Davies et al. 2002: 130).

5.2.2 Burial position in landscape

Placement of the dead is rarely random (Esmonde Cleary 2000). Burial clustering, according to age or impairment, has so far been recognised as more of a feature of Saxon cemeteries (Lee 2008; Zakrzewski et al. 2017). Clusters in Roman studies have mostly been associated with infant burials (Millett and Gowland 2015), however, Graham's (2013) study has demonstrated an example of Roman period grouping of people with impairments in a burial context. Where feasible, the position of the individual skeletons was marked on an Alington Avenue site map to show their position in the cemetery landscape (figure 5.1). Using similar methodologies utilised by Zakrzewski et al. (2017), individual burials are colour coded according to sex, age and palaeopathology exhibited in order that possible clusters and groupings are identified

5.2.3 Archaeothanatology

Archaeothanatology, also known as *anthropologie de terrain*, is based on knowledge about the processes of decomposition of the body in specific contexts (c.f. Duday 2009; Nilsson 1998; 2006; Nilsson Stutz 2003; 2006; 2008; Nilsson Stutz and Larsson 2016). The funerary contexts that archaeologists uncover are never perfect reflections of the burial scene when it was created. When the soft tissues that hold bones in place (muscles, tendons and ligaments) decompose, there is nothing left to hold bones in an unstable position. Subject to the effect of gravity, the loose bones fall out of place until they are once again in a stable position (Duday 2009). At some point over time, sediment will fill in any voids left in the context, fixing bones in place. It is this scene that archaeologists eventually uncover.

With knowledge of the decomposition of the body and inevitable effects of gravity within different contexts, the remaining spatial distribution of bones can be interpreted to help reconstruct the original funerary scene (Duday 2009; Nilsson 1998). Firstly, archaeothanatology can help confirm whether the burial is primary or secondary in nature. Primary burial refers to the context where the body first decomposed. Secondary burial describes a scenario where a body decomposed in multiple locations, before being placed into its final location where the remains were uncovered (Duday 2009). The primary or secondary nature of burials is inferred by the study of labile joints found in the cervical vertebrae, hands and feet. These joints are relatively unstable, decomposing in a matter of weeks post-mortem. If the bones in these places are found in anatomical position, it is likely that the burial under study was a primary interment, because even after just a few weeks, decomposition is likely to have sufficiently progressed that anatomical position in labile joints are disrupted if the body is moved (Duday 2009). The unstable nature of

these regions, however, means that these elements can also be easily disrupted by other processes occurring in a grave, such as through rodent disturbance.

Secondly, archaeothanatology can be used to describe features that have not survived to the present, but nevertheless impacted the movement of a decomposing body, such as a coffin or a shroud. The presence of nails or wood stains have often been used to infer a coffin burial however, these can be quite weak indicators as nails can be a votive grave good (Quercia and Cazzulo 2016) or an accidental inclusion (Williams 2015). Only wrappings that are tight can be archaeothanatologically detected. Tight wrappings tend to restrict the shoulders and thorax. Restriction along the coronal plane rotates the clavicles, resulting in the so-called verticalisation of the clavicles (Duday 2009; Nilsson 1998). The scapulae also rotate outward and the glenoid cavity becomes directed upward and outward. The same coronal plane experiences compression, applying bilateral pressure on the ribcage, resulting in the anterior part of the ribs falling towards the medial axis of the body. Wrappings are also indicated by general so-called '*effet de parois*' (wall effect) on limbs, i.e. the maintenance of unstable positions by the presence of a supporting structure (Duday 2009). Bodies that are buried in voids, like coffins, however, have much more room to move, and so for example the anterior part of the rib will fall laterally, away from the centre, and limb bones will fall out of unstable positions. A key issue, however, is that tight wrappings and a tight coffin can produce similar spatial distributions. Distinguishing between clothing and shrouds is only sometimes possible (Williams 2015). In the case of Alington Avenue, a degree of common sense was applied. If a person was found with hobnails surrounding their feet, with associated wrapping-like bone spatial distribution, it was likely that the individual was clothed in their burial, however; it is not possible to tell if an individual was both clothed and shrouded.

Duday (2009) also described how position of the body in the grave can support impairment diagnosis, the preserved position of bones having indicated, in rare cases, paralysis and joint immobilisation. Skeletal preservation has a substantial impact on the degree to which archaeothanatological analysis can be applied. Henri Duday (2009) argued that the technique can only be applied in the field, whereas Liv Nilsson (1998) has repeatedly demonstrated that it can be effectively applied post excavation, using excavation photography and sketches, although this is heavily dependent on the quality of recording at the time of excavation. Photographs of skeletons in-situ often, for example, do not have good views of cervical vertebrae, as they are often hidden under the cranium, meaning that a key indicator of primary or secondary burial is not visible. Yet even in instances where there is minimal recorded information, Nilsson (2006) has demonstrated that archaeothanatology can be applied to some level. Archaeothanatology has mostly been

applied to supine and side burials; further study is therefore required to look at more unusual burial postures, such as prone burials.

For the purpose of this study, archaeothanatology has been attempted on burials where there is an excavation photograph available. On some occasions, there are also sketches included in the excavation report, but this is not a consistent occurrence. In the study, it is assumed that archaeologists did not tamper with the position of the skeleton before the context was photographed.

5.3 Writing a dis/ability narrative

Data concerning individual skeletons is often dispersed separately throughout excavation reports, in multiple forms and even in separate publications. As a result, all the information about an individual is rarely brought together and the links between data points rarely made. A critical feature of the integrated osteobiography approach is the amalgamation of data. Much of the methodology and effort of this project involves the consolidation of all these data forms, to create a singular narrative, firstly of the individual and then of the population more generally. This can be complicated by the same context having multiple references, such as grave number 578, skeleton AA210 and significant find numbers 211, 212, 213) (Davies et al. 2002).

Tilley and Cameron (2014; Tilley 2015a) demonstrated, through the index of care approach, how incorporating different data types can be used to create a dialogue about disability in prehistory. Their focus was on individual case studies which had little available contextual information from peer burial populations. This project aims to contextualise the individuals under study within their burial community, forming a halfway house between the Hawkey (1998) and Robb (2002) approaches (see section 3.5.5). The remainder of this chapter aims to demonstrate how the different data sets were integrated into a singular narrative about dis/ability.

5.3.1 Identifying dis/ability

In order to differentially diagnose an impairment from skeletal material, the skeleton needs to be considered as a whole, with all the appropriate palaeopathology bought together as a list of symptoms. From there, a list of possible known clinical impairments can be created, and the final diagnosis justified. After this, dis/ability can be discussed through consideration of how palaeopathologies interact and impact a person's experience within their lived context. To help with this process, Tilley and Cameron's (2014; Tilley 2015a) index of care was adapted to discuss dis/ability in the following order of actions:

Step 1. Describe and document

- Describe remains and evidence for pathology
- Document cultural, social, economic and mortuary contexts

Step 2. Determine impairment

- Differential diagnosis of condition
- Identify clinical characteristics/implications of disease/likelihood of symptoms

Step 3. Implications for dis/ability

- Assess how common an experience this palaeopathology would have been in that context.
- Identify functional impacts within lifeways context in terms of essential and instrumental activities of daily living.
- Discuss evidence of social reception.

Step 4. Interpretation

- Explore the implications of this impairment and resulting dis/ability for individual and population.

The index of care was designed to clearly present bioarchaeological evidence of care in an academically rigorous manner (Tilley 2015a). The approach laid out above, similarly, aims to clearly establish the process through which dis/ability is determined and its implications assessed.

5.3.2 Reconstructing dis/ability experience

Reconstructing the experience of a dis/ability in terms of pain and functional impact forms a vital part of step three of the index of care (Tilley and Cameron 2014, see section 5.3.1). Osteologists tend to be conservative in their interpretations of the consequences of palaeopathology, due to the variability of experiences related to pathological lesions (see section 3.5.5). This approach limits research; for example, Tilley (2015a) only discussed extreme cases of impairments and palaeopathology. Yet, osteoarthritis has been shown to have a profound impact on modern populations, and as it is one of the most commonly observed palaeopathologies in human skeletons, it likely had comparable consequences for ancient populations (Plomp 2017). An aim of this project is therefore to explore a broader range of impairment and its impact.

Modern clinical literature has proven invaluable when exploring the experience of palaeopathological lesions and impairments (see, for example, Faccia and Williams 2008; Stace and Danks 1981). Kjellström's (2010) approach to the study of pain in the past informed the methodology. A key concept is that of *permanence biologique;* that the human body has

remained fundamentally biologically unchanged since the Roman period (Graumann 2017; Kjellström 2010). Therefore, an experience of an impairment or lesion today would not be biologically different from that in the past. So, when exploring pain, analogies can be made between past patients and modern patient anamneses (Redfern 2017). These experiences then need to be contextualised, as much as possible, in the past circumstance (Kjellström 2010). It is generally believed that the experiences of people with impairments today are likely to represent the least of what was experienced by people in the past, as they did not have the medical advantages of the modern age (Faccia and Williams 2008). Bruno Latour (2000) argues that labelling and understanding ancient disease like this is anachronistic. It is true that the social understanding and beliefs surrounding an impairment or disease vary between different societies, resulting in differing behaviour, labelling, stigma etc., however, it is asserted here that the clinical symptoms will be similar and this biological information can be insightful when understood within their specific social context.

A difficulty arose when trying to decide in which cases it was appropriate to ascribe symptomatic and impairing experience. In ideal circumstances, clinical data will offer an idea of the likelihood that patients with a condition will manifest certain symptoms. The most common symptoms can then be incorporated into the osteobiography and their consequences explored. It is noted, however, that clinical data has inherent limitations as patient samples generally comprise of people who have sought help for a symptomatic condition (Redfern 2017). The people who have a palaeopathology but exhibit no symptoms are rarely found, making true symptom prevalence very hard to estimate. Additionally, this kind of clinical data is not always available. As a result, throughout the osteobiographies below all experiences possibly associated with an evident palaeopathological lesion are discussed, and then an appropriate, openly justified judgement call is made about which experiences to explore further in each case. For example, in instances of osteoarthritis, pain and impairing experience were only inferred if the lesions met either the following criteria:

- Osteoarthritic lesions were found in the thumb base, medial compartment of the knee and hip. As these have been noted to be more often associated with pain (Waldron 2012).
- Eburnation is evident in a joint as this is described in the literature as signally severe and long-term osteoarthritis (Craps 2015; Jurmain 1999).
- Osteoarthritic lesions were found in the same vertebrae as Schmorl's nodes as this has been linked to activity limitation and pain (Faccia and Williams 2008).

This system is not perfect. Calculating an estimate of the true prevalence of symptomatic and impairing experience is not the aim here. Instead, the goal is to explore the range of experiences likely had as the result of palaeopathology. The methodology suggested above does not provide a

wholly accurate reflection of the prevalence of pain and/or impaired experience, but it is preferable to overlooking them entirely. It is relevant to discuss the range of consequences and symptoms associated with palaeopathological lesions, because even if the skeleton specifically under discussion did not have this actual experience, someone probably did. It is hoped that this approach allows exploration of a range of impairments, not just the most extreme, taking a step closer to the real picture.

Clinical studies have arguably been used as a form of ethnographic evidence. Archaeologists have often turned to anthropology in order to understand patterns of behaviour evidenced in the material record (Chapman 2013; Hollowell and Nicholas 2008). For example, Shay's (1985) ethnographic insights about necrophobia have proved particularly influential in the interpretation of atypical burials (see section 3.5.5). There is difficulty, however, in knowing how applicable ethnographic examples are to interpreting the distant past and which examples to select for comparison (Hollowell and Nicholas 2008). Anthropology, at the very least however, reveals that human behaviour varies a great deal, opening interpretation up to a variety of options. Anthropological study provides crucial insight into how impairment is recognised, understood and responded to in society, and persistently reminds us of the variation that exists both now and in the past (Redfern 2017).

Modern insight has been important to the creation of the fictive narratives below, not only in determining the likely clinical symptoms, but also to understanding the experience of palaeopathological lesions and impairments. The anthropological insights used came not only from clinical literature but also from personal autobiographical narratives (for example, Mairs 1996; Oakley 2007) and traditional ethnographies (for example, Howes 2011; Sugiyama 2004). Insight was also gained through an interview with a family friend, Joan Lyons (JL) who could offer experiential insight into what it is like to be of similar height to individual AA766 (see appendix D). Similarly to how Mende Nazar's experience of modern slavery has informed historians of slavery (Brooten 2015), so too has Joan's experience in the modern world helped inform me about living with a short stature body in the ancient past. Joan has kindly given her permission for her name and words to be used within the context of this thesis. Although one can never fully put themselves in someone else's shoes, even some insight can prove invaluable to gaining a better understanding of living with impairment as hopefully evidenced below.

5.3.3 Fictive Narratives

Relatively recently, fictive narrative has been demonstrated to be a useful tool in Ancient History. For example, Bernadette Brooten (2015) used short passages of fictive narrative to create

hypothetical scenarios to illustrate the predicament early Christian enslaved families had when faced with new testament household codes. Alternatively, Reidar Aasgaard (2015) used a fictive narrative to explore a child's lived experience of 5th century AD Constantinople. More recently, Christian Laes (2021) has written the first example of fictive writing that attempted to bring disabled persons from the Roman period to life, using known osteoarchaeological specimens from Rome. The contribution follows in this new tradition, but in a Roman British setting. Initially, the writing of fictive narratives was intended to afford the author a different technique with which to address the challenge of integrating the different data sets into a single story. This style of writing, however, has proven especially apposite for this project, as it allows the experience of palaeopathology to be explored more readily, and improves the accessibility of the study (see section 2.2.4).

A key concern when presenting academic scholarship creatively is the issue of citation (Boutin 2016). Boutin's (2012; Boutin and Porter 2014) use of footnotes, to signpost the evidence that supports points in the story, offers clear references that minimally disrupt the flow of a story: this device is used within the narratives developed here. Harris (2010: 11), in his discussion of attempts to reconstruct the emotions of past historical actors, describes the limited evidence the pre-modern world has left researchers as a few lines on a canvas '…which a clever artist can make into a picture of an angel or a crocodile almost at will'. In other words, the same historical evidence can be interpreted in multiple ways, and thus create different impressions of the past. In order to address this and avoid comparisons with the 'just so story' genre, three different narratives depicting the same scene are presented to offer slightly different interpretations and perspectives of the material. This way the sense of uncertainty in interpretation is emphasised openly. Like Aasgaard (2015), my aim is not to create a 'real' reconstruction of the past, but I did intend to write a plausible scene. The remainder of this chapter is dedicated to discussing issues that impacted the creation of the fictive narratives.

5.3.4 Reconstructing a Romano-British funeral

The narratives below present different versions of the same scene, that of a funeral at Alington Avenue. This scene is fictional. We do not know, for example in what order people died or if they ever met one another; all we do know is that they were buried within the same cemetery (Davies et al. 2002). The setting of Alington Avenue was chosen because it is the one location with which we know, for sure, that the individuals studied had a connection. This also avoids the conundrum of whether the population were a rural or urban community, as this is a source of debate for Alington Avenue (Davies et al. 2002; Redfern 2008).

Reconstructing the Romano-British funerary process presents a number of challenges. Although there is some historical evidence of Roman funerals, only one text details an example from Roman Britain, that of the cremation of Emperor Septimius Severus, who died at York in 208AD (Dio, Roman History, 77.15). The relevance of the account of an extremely elite cremation in York to the study of the inhumation process just outside Dorchester is minimal. Although there are strong similarities between burials from Britain to the Black Sea, suggesting an Empire-wide funerary tradition (Pearce 2013), Weekes (2016) claims that documentary evidence cannot be applied directly to evidence of funerals in Roman Britain.

A notable part of the challenge of reconstructing a Romano-British funeral is that there is no such thing as an ordinary funeral or burial in the Roman world (Graham 2009; Weekes 2016). Instead funeral traditions are selected, rejected and personalised to create a suitable event for the deceased and their community (Weekes 2016). Fowler (2013) identifies 3 conceptual stages common to all mortuary process – the pre-liminal, liminal and post liminal stages – through which the status of the individual changes from a living person to deceased, from a person to an object. The pre-liminal stage comprises of rites of separation from the living space, for example the body being taken out of the house. In the liminal stage the body is physically transformed, for instance by cremation. In the post-liminal stage, the deceased is settled into the sphere of the dead. Weekes (2016) offers a more pragmatic version of the stages of a funeral, comprising of selection (deciding whether the deceased is afforded a burial), preparation (e.g. washing the body), location (i.e. selection of burial plot and procession route), modification (e.g. embalming), deposition (deciding, for example, in what position a body is buried) and commemoration (i.e. post deposition visits). In the process described by Weekes (2016), the part we have the majority of direct evidence for, the deposition, is isolated from most of the other stages, making reconstruction of the rest of the process difficult if not impossible (Booth 2017).

These difficulties have meant that reconstructions of Roman funeral processes are rarely attempted, despite pleas for more phenomenological and experiential exploration within this area (Graham 2011; Pearce 2011b). The use of fictive narratives, offers an opportunity to explore and experiment with different ideas, accepting Booth's (2017: 196) assertion that '*Indeed for most of these sites the imagination is given free rein in terms of reconstructing the details of rituals of mourning and commemoration*.'

Chapter 6 Alington Avenue context analysis

The following section provides an overview of numerical data obtained from osteological and mortuary evidence from the cemetery site of Alington Avenue, Dorset. 37 skeletons were selected for study by virtue of their preservation, secure providence and age. The skeletal data are the result of direct analysis, whereas the mortuary evidence was primarily obtained from archaeothanatological analysis and the site excavation report (Davies et al. 2002). This chapter includes details of: age and sex, stature, pathological conditions and mortuary provision, and their distribution in the sample. This chapter focuses on Alington Avenue at the community level, summarising key population trends and presenting contextual information with which individuals can be compared in their osteobiographies. This chapter provides a summary of the key findings; the full details are available in appendix B.

6.1 Sex and age

Figure 6.1 shows the different proportions of the biological sexes represented in the sample. Unfortunately, the biological sex of juveniles could not be obtained (for reasons see section 5.1.4). Biological males comprise 59.5% of the population and the majority, with females forming 32.4% and juveniles 8.1% of the sample.

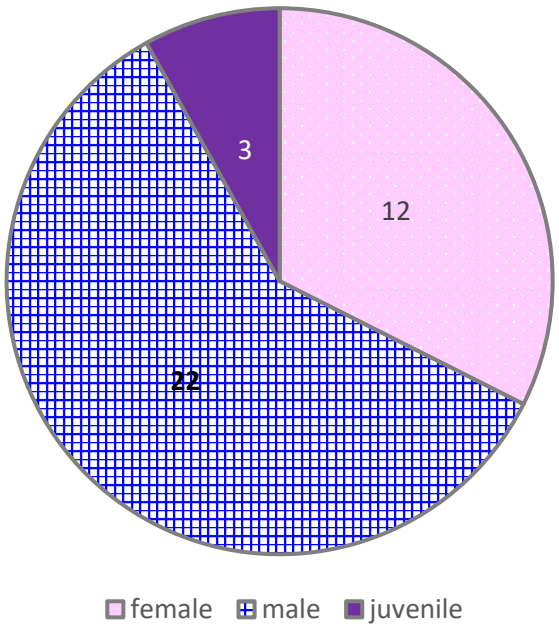

Figure 6.1 - Pie chart showing the proportions of the biological sexes within the sample from Alington Avenue along with exact numbers (n=37)

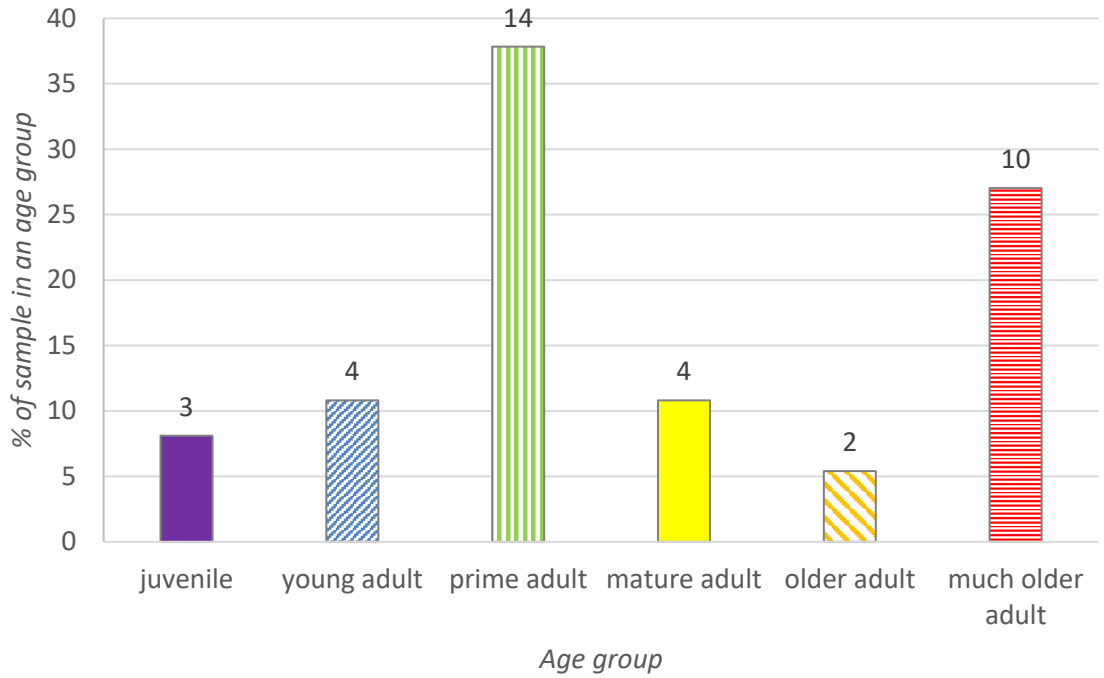

Figure 6.2 - A graph showing the age make-up of the sample from Alington Avenue with exact numbers labelled (n=37)

Romano-British cemetery populations tend to be biased in favour of men, which is postulated to be the result of greater rates of male migration or the impact of female infanticide (Mattingly 2007). The reason could also be related to issues of misinterpretation of older females as males (Kjellström 2004; Walker et al. 1988; Walker 1995). It is also noteworthy that bones from female skeletons, which are generally smaller, less dense and lighter than males', are more likely to fragment and poorly preserve (Stojanowski et al. 2002; Walker et al. 1988).

Figure 6.2 shows how the different age groups were represented within the selected sample from Alington Avenue. Adults formed the vast majority of the burial population, comprising over three quarters of the sample (92%). Of the adults, prime adults (26-35 years old) form the largest group, representing 38% of the total sample. The underrepresentation of mature and older adults may be related to the difficulty that ageing techniques have in differentiating the middle aged and older aged (Milner and Boldsen 2012). It is also noteworthy that over a quarter of the sample have been aged to over 60 years old, which challenges the commonly held notion that it was rare for people to survive into older age in the past.

Figure 6.3 shows the number of males and females who died at the different stages of adulthood in the Alington Avenue sample. This diagram only discusses adult remains, as juveniles (under 18 years old) cannot be sexed accurately (n=34). It seems to show that the majority of adults, both

male and female, were dying during prime adulthood. Women had higher rates of mortality during young and prime adulthood. During these stages, women could be expected to be reproducing (Allason-Jones 2005). Childbirth presented an increased risk to mothers, thus possibly explaining their increased mortality during these stages of life (Allason-Jones 2005).

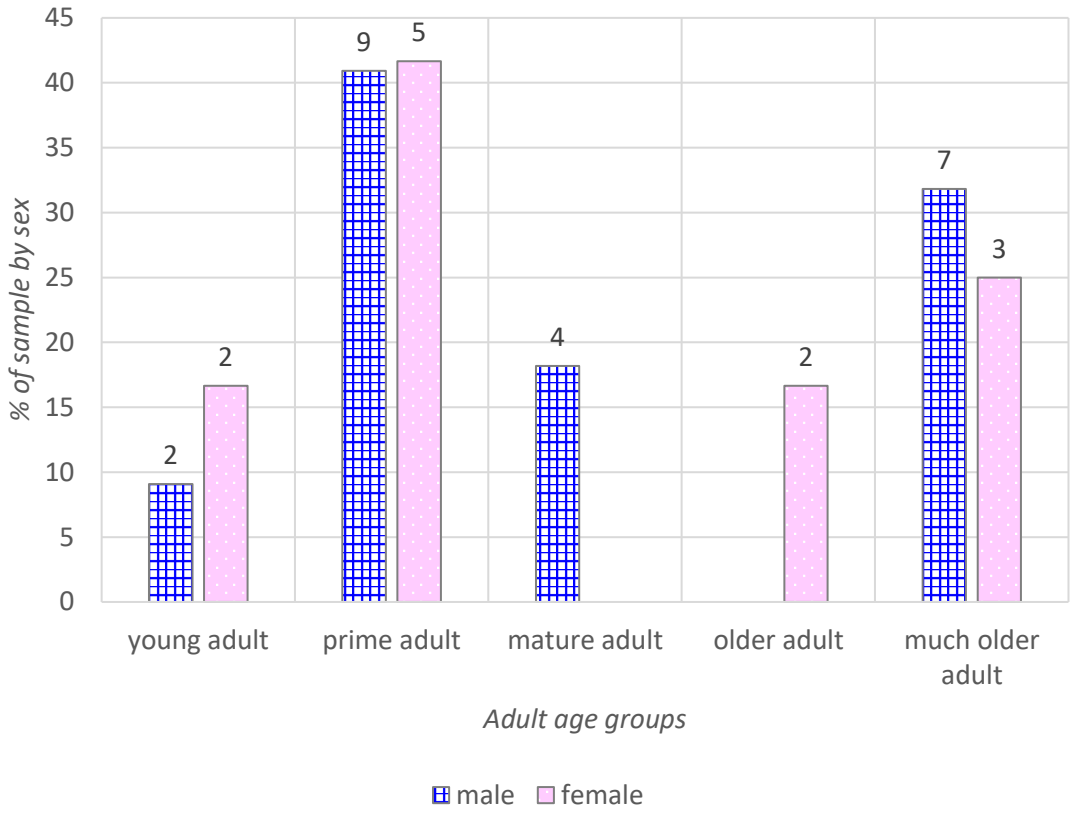

Figure 6.3 - Bar chart showing the percentage of males and females divided by age groups with actual totals labelled (n=34).

6.2 Stature

The box plots (figure 6.4 overleaf) show the average and range of recorded stature from the Alington Avenue adult skeletal sample. The male skeletons are generally taller than female. The mean stature of the females is 160cm which is only slightly taller than the 159cm average calculated for Romano-British females generally (Roberts and Cox 2003: 396). The mean stature of the males from the Alington Avenue sample is 169cm which matches the Romano-British average (Roberts and Cox 2003: 396). Caution, however, is needed with the use of these inter-cemetery averages as it pools together the work of different researchers, who could use different stature estimation processes and inter-researcher differences are likely. The interquartile ranges demonstrate that statures are generally quite consistent at Alington Avenue (male – 7.2cm and female – 9cm). The female stature median and interquartile is calculated without the datum from

AA766 (indicated by a star in figure 6.4), a clear outlier, who at 123cm tall, was 37cm shorter than the average. See appendix C for complete record of stature estimates.

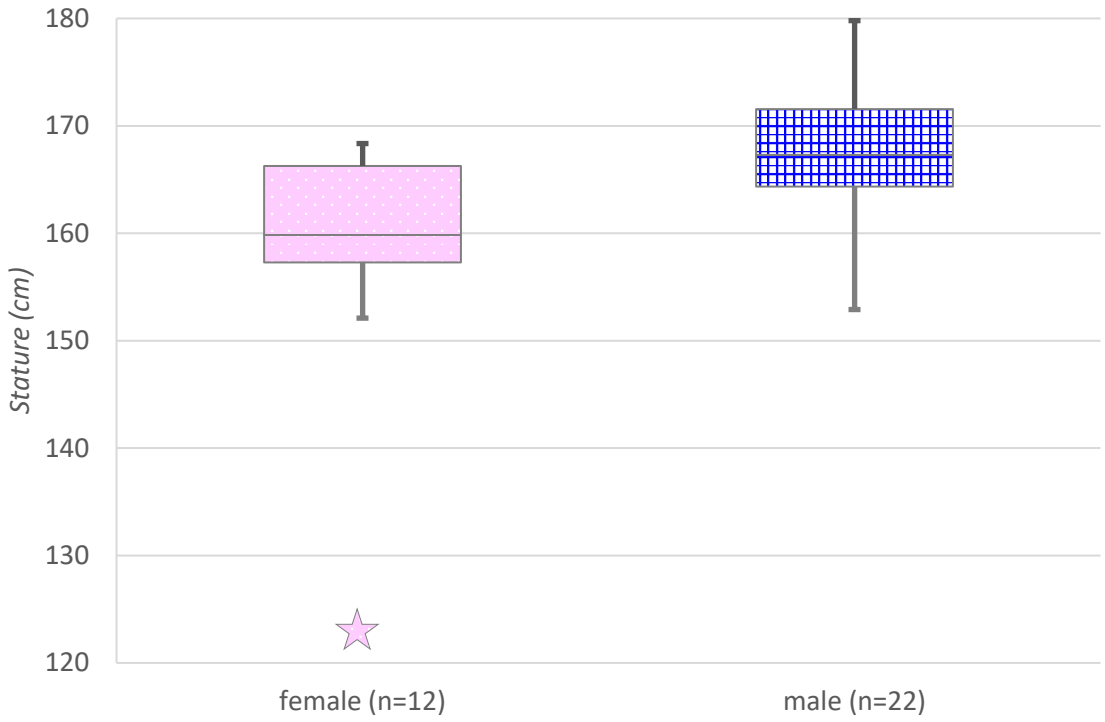

Figure 6.4 - Box plots depicting male and female stature data from Alington Avenue. Boxes show interquartile range with average marked with a line. The error margins show the maximum and minimum statures recorded. The star indicates an outlier datum.

6.3 Diet

The differences in the δ13C and δ15N values can identify carnivorous and marine rich diets (Brown and Brown 2011). As part of Redfern et al.'s (2010) study of temporal changes in diet in Iron Age and Roman Dorset, 10 specimens from the sample were studied isotopically. These results have been extracted and displayed in figure 6.5, highlighted **pink** for biological females and **blue** for biological males. Redfern et al.'s (2010) study found two clusters in the data, suggestive of two distinct dietary trends (see figure 6.5). Higher values of both δ13C and δ15N indicates a diet enriched with marine resources, which seems to be the case for Cluster 'G2'. AA794's specimen has a particularly anomalous signature compared with their peers (Redfern et al. 2010). The isotopic data from Alington Avenue have been found to be unusual within Dorset assemblages more broadly; the isotopic signatures seem to suggest more marine components in their diet than other Dorset cemetery populations (Redfern et al. 2010). Alington Avenue's distinctive pattern has been explained by the site's location close to the town and consequently improved access to varied food resources (Redfern et al. 2010).

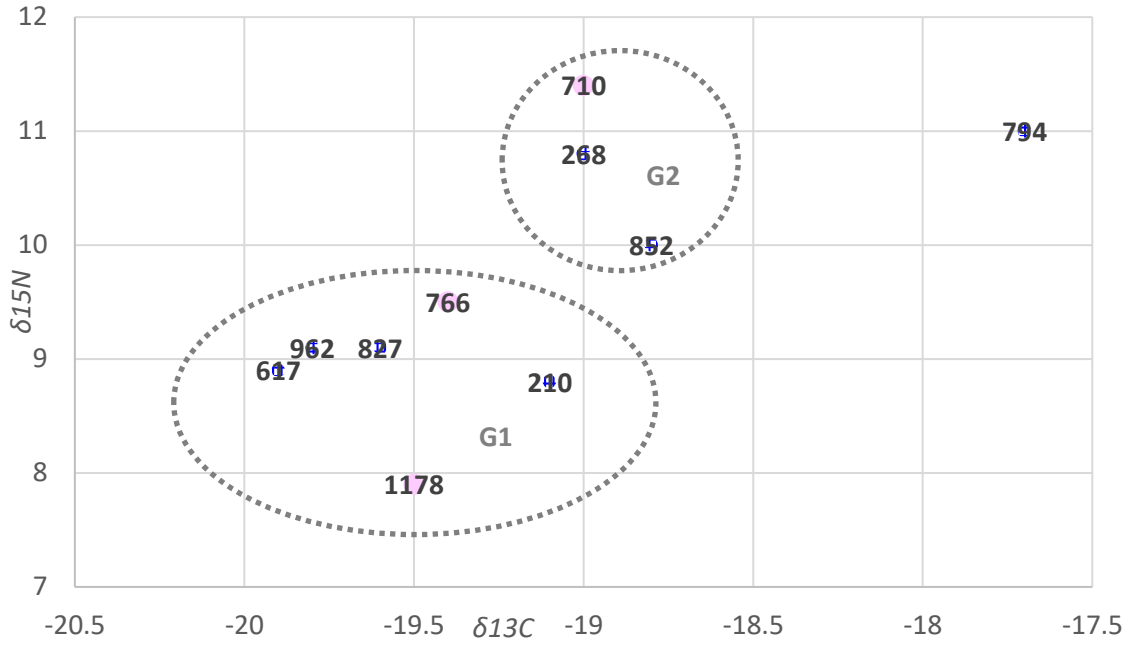

Figure 6.5 - Scatter diagram showing the isotopic data available from Alington Avenue with skeleton numbers labelled (n=10).

6.4 Palaeopathology

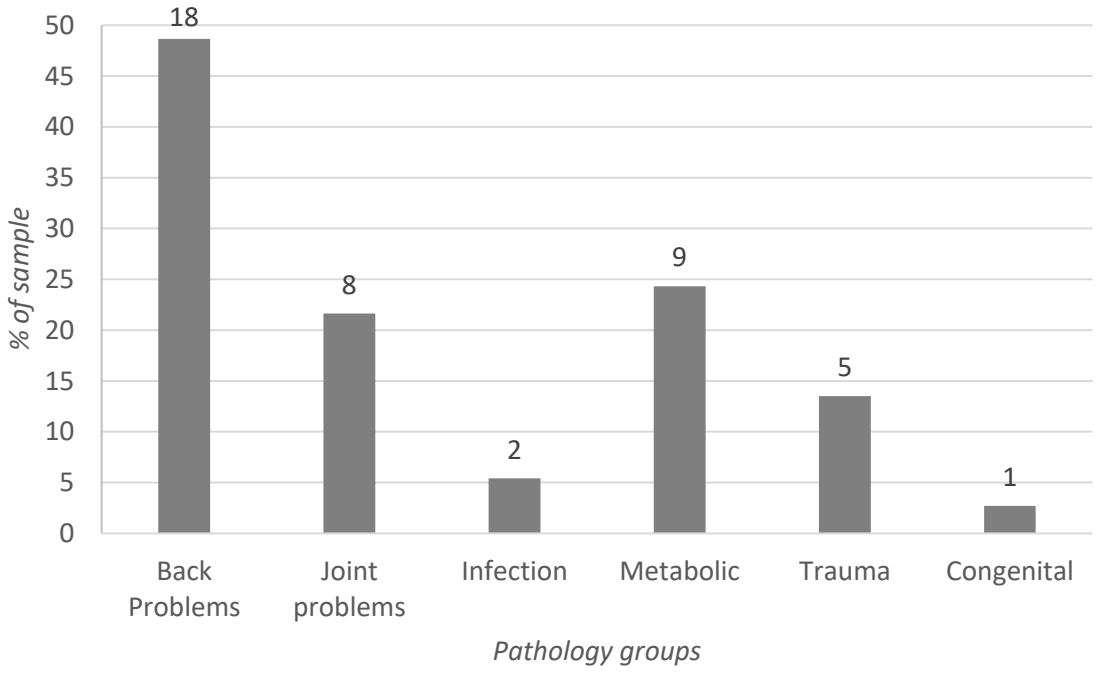

Figure 6.6 - Bar graph showing in the different proportions of the sample affected by the different pathology groups along with exact numbers indicated (n=43).

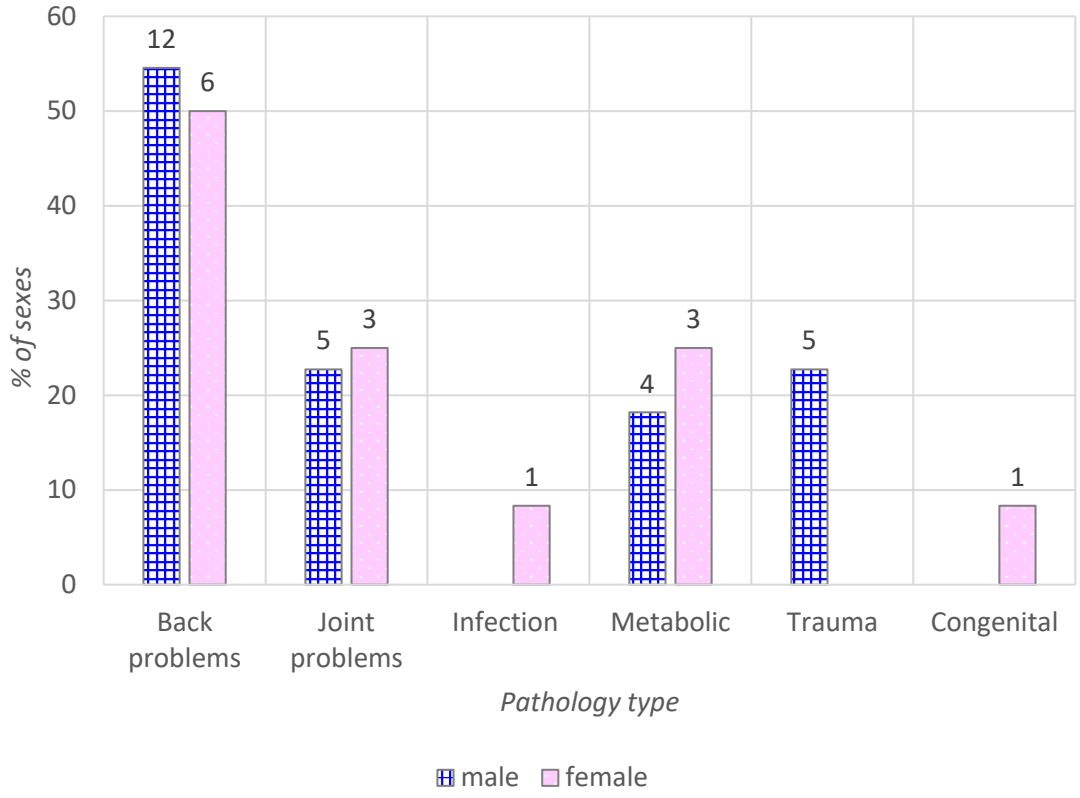

Figure 6.7 - Bar chart showing the proportions of the sexes who experienced each pathology types along with exact incident numbers (n=34).

81% of the skeletons in the sample exhibited at least one example of palaeopathology (this figure excludes incidences of antemortem tooth loss, carious lesions and calculus). A pathological case can comprise of several lesions, for example several osteophytes and eburnation found throughout a skeleton are interpreted as one case of osteoarthritis. 43 cases of pathology in the entire skeletal sample were identified (again excluding cases of antemortem tooth loss etc.). 86% of males and 75% of females were affected by at least one of those palaeopathologies. All the individuals in the three eldest age groups (mature, older and much older adults) have evidence for palaeopathology. Figure 6.6 shows the proportion of the sample which exhibited each pathology type. Back problems were the most common type of skeletal disorders. This is unsurprising as osteoarthritis is the most common pathology found in the post-cranial skeletal remains in archaeological settings (Roberts and Manchester 2010).

Figures 6.7 and 6.8 show how the different pathology groups affected the different sexes and age groups (respectively). Broadly speaking the different types of palaeopathology affected similar proportions of the sexes, except for trauma which was evident in exclusively male skeletons. Certain palaeopathology types seem to impact individuals at different stages of the life course. Metabolic disorders tend to be exhibited in the younger aged skeletons, affecting a smaller and smaller proportion of people going up the age categories. Trauma is mostly evident in the much

older age group. This is noteworthy as traumatic lesions, obtained decades before, tend to remodel sufficiently that they are no longer visible, so this increased number of trauma lesions in older aged individuals cannot be simply interpreted as a life-time's accruement. Trauma in older age groups has been linked to elder abuse in specific circumstances, although none of the typical signs of abuse were found (Gowland 2016a; 2016b). Additionally, it is difficult to estimate when in life a traumatic lesion was incurred, and bone remodelling makes earlier fractures difficult to see. Back problems steadily impacts the population over the adult age groups, becoming an almost universal problem associated with the much older age group (Figure 6.8).

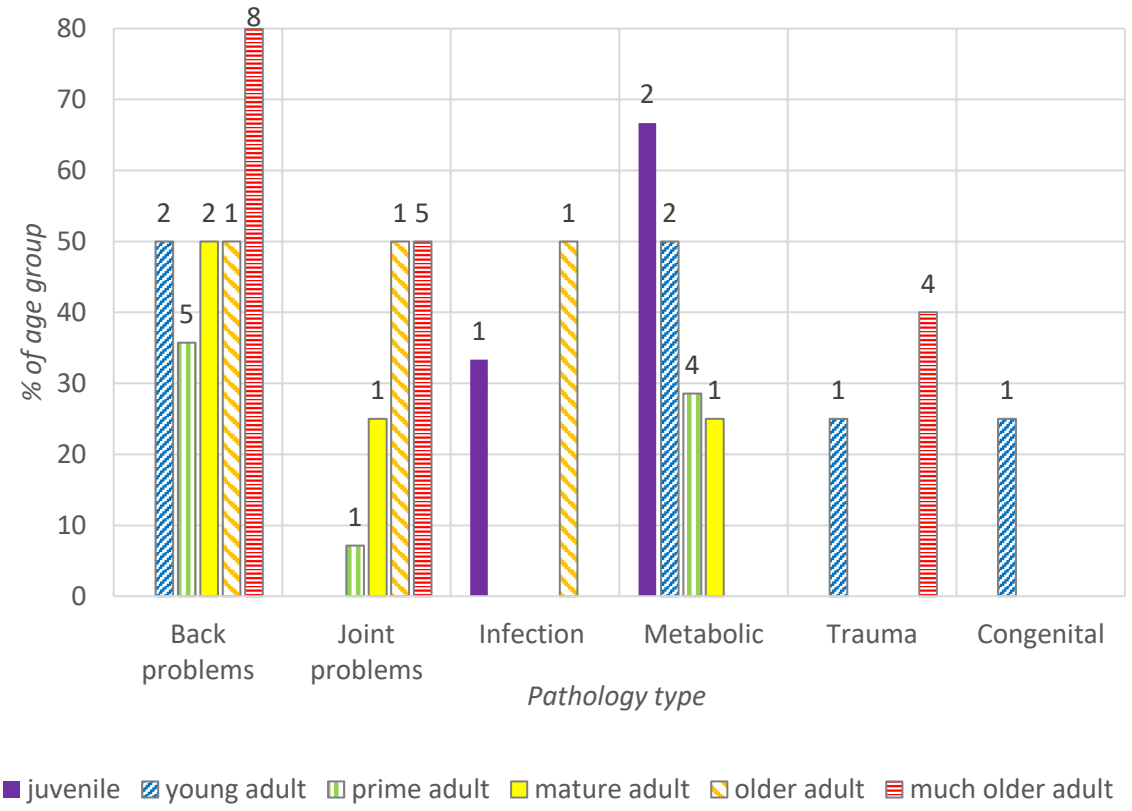

Figure 6.8 - Bar chart showing how the different pathology groups manifested in the different age groups with exact numbers (n=37).

6.5 Dental health

Dental pathology is by far the most common form of palaeopathology found in archaeological samples (Roberts and Manchester 2010). Of the skeletons in the Alington Avenue sample, 35 had dentition available to study. Of these 35, 33 had at least one type of dental pathology evident. Dental pathologies discussed in this section include: antemortem tooth loss, calculus, carious lesions and abscesses. Calculus was a very common pathology, affecting 94% (33) of the sets of dentition available to study. 7.1% of tooth sockets observed showed antemortem tooth loss. This

compares favourably to the overall average for Roman Britain of 14.1% (Roberts and Manchester 2010: 74). There is only one instance of an abscess found within the sample; which is lower than the broader Romano-British average (Roberts and Manchester 2010: 71). Consistently males had more dental pathology than females in the sample; for example, 57% (12) of males having evidence of antemortem tooth loss, compared to 36% (4) of females, although the average number of teeth lost is the same for both male and females (figure 6.9). Figure 6.9 shows that the average number of teeth lost increases over a life course, with a big increase seen between mature and older adults. Tooth loss is not specifically caused by ageing, but it is progressive, with risk accumulating over the life course. As a result, tooth loss will always be more prevalent in older individuals (Appleby 2017). Only 3/10 individuals from the two older age categories showed no sign of antemortem tooth loss, one of which was likely due to the poor preservation of the skull. Of the 7/10 who had lost teeth, all had lost more than one. Tooth loss, and its associated consequences was, therefore, not unusual for the population, and seems to be a common feature of old age within this population. Dental health has been cautiously used as an indicator for general health (Nikita 2017). It is suggested therefore that the 3 individuals who have survived to older age without losing teeth show excellent dental health, possibly indicating a good level of overall health which may have contributed to their longevity.

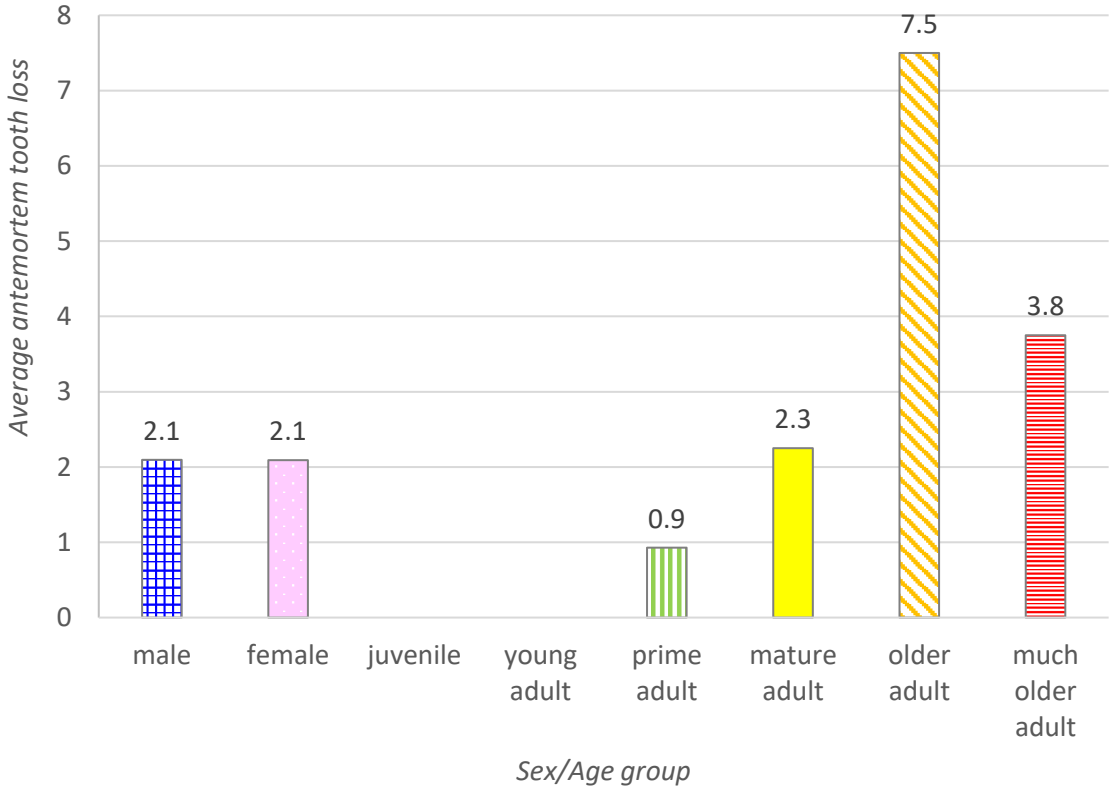

Figure 6.9 - Bar graph showing the average number of teeth lost antemortem for the different sex and age groups.

6.6 Mortuary evidence

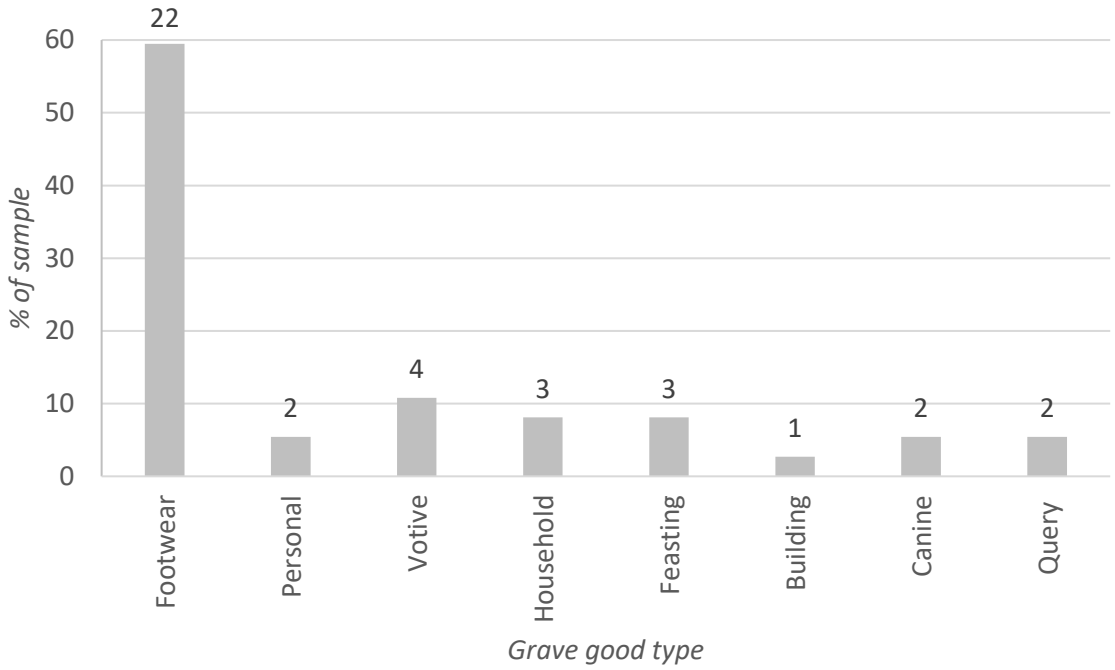

Figure 6.10 - Bar graph showing the percentage of the sample with each grave good type alongside actual numbers (n=39).

Grave goods were a fairly common feature of burials at Alington Avenue, with 68% of the sample having at least one type of grave good (excluding coffins). A frequent provision was footwear, found in 59% of the burials (figure 6.10). Evidence of hobnails, boot plates and cleats were counted as one grave item, as in one pair of shoes. The young adult age category only had shoes as grave goods. Shoes in a grave is usually simply viewed as an item of worn clothing and many of the examples at Alington Avenue can be considered as being worn. Yet shoes have also been demonstrated to have a more votive role related to them also, making their category assignation unclear (van Driel-Murray 1999; Moore 2009b). Shoes have been noted as a feature in Romano-British burials more broadly (Moore 2009b). Without the inclusion of shoes, the grave good provision drops significantly, with only 24% (9 individuals) of the sample having any grave goods at all.

The average grave good number for the total population is 1.05. Figure 6.11 shows that juveniles and mature adults have the highest average number of grave goods whereas young, prime and much older adults have the fewest. The juveniles and mature adults are also the age categories with the smallest number of individuals. This means that these age categories are susceptible to skewed data by an anomalous individual, such as AA1169, a juvenile with an unusually plentiful and rich grave good assemblage comprising of four different grave good types and a lead coffin. The lead coffin also resulted in excellent preservation, with some textile having survived (Davies

et al. 2002). The high number of grave goods may also be interpreted as an example of *mors immatura* (Martin-Kilcher 2000). This idea suggests that increased grave good provision was afforded during the funerary rituals for people whose death was perceived as particularly unexpected and tragic (Martin-Kilcher 2000). In contrast, the groups with the lowest average number of grave goods, the prime and much older adults, could present a more expected death.

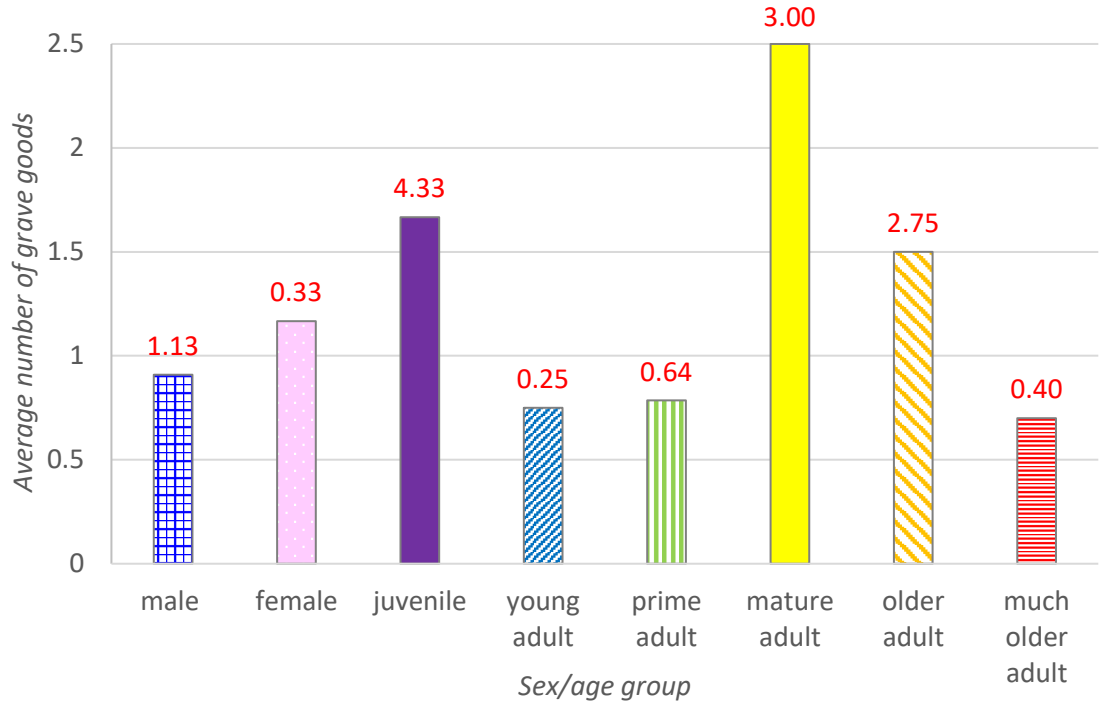

Figure 6.11 - Bar graph showing the average number of grave goods in the different sex and age categories with the variance recorded in red.

Excavation photographs for 30 skeletons in the sample were available to study. On examination of these photographs, 24 contexts were judged to have been primary burials. Of the remainder, 4 were assessed to be secondary burials and the rest were uncertain. 17 of the photographs have provided evidence that the interred individual was wrapped in shroud or clothed in the burial. A fundamental provision of the burials at Alington Avenue was a coffin, with 89% (33) of the sample having been provided with one. All but one of these coffins were wooden and identified in the excavation report by the presence of coffin nails (the other was AA1169's lead lined coffin) (Davies et al. 2002). Archaeothanatological study of excavation photographs corroborates the use of coffins, and none of the coffin nails were placed in a position that implies a more votive function, as has been identified elsewhere (Quercia and Cazzulo 2016).

The most common burial position by far, is the extended, supine position occupying 81% (30) of the sample proportion. Of the remainder, 2 skeletons were buried prone and the rest were crouched/sat positioned. The orientation of the burials at Alington Avenue is variable, with the most common orientation being a north-east alignment (32%). The study of hand position in the

burials, at Alington Avenue shows a high level of variability: the most common involving the hands being positioned independently of each other, representing 50% of the sample. The least common hand position was the hands placed by the side of the body (8.3%). Most burials involve at least one hand being laid on the pelvic girdle (92%).

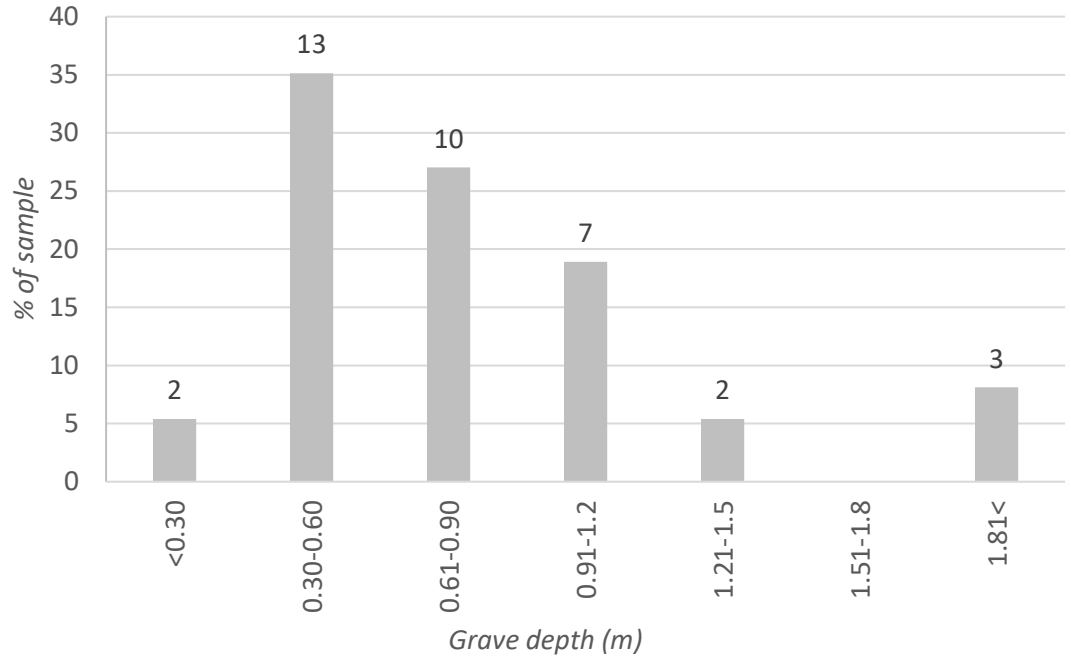

Figure 6.12 - Bar chart showing the percentage of the sample buried at different depths with exact numbers labelled (n=37).

Figures 6.12 and 6.13 present data concerning grave dimensions. Depth of grave is quite variable across the cemetery, with a range of 2.1m between the maximum and minimum grave depths. Three individuals, all of whom were biologically female, seem to have been buried at an unusually deep level compared with the rest of the sample. A deep grave could be interpreted as a population taking extra effort to ensure security of that grave, however no other features of the graves lend to this interpretation. Figure 6.13 shows that grave dimensions do not follow potentially expected proportions. For example, the average volume of a female's grave is larger than a male's, despite women being generally shorter than men (figure 6.4).

Figures 6.14 and 6.15 show the grave locations at Alington Avenue with the sample highlighted by sex and age. There appears to be little in the way of apparent overarching conventions dictating burial position at this site, however, there is a small cluster of male prime adults to the right side of ditch 3651. It is also interesting to note that the individuals buried in the ring ditch enclosure, away from the central group, are both much older adult males (figure 6.15). These individuals could be considered to have a different aspect of their identity such as status that dictated their placement within the cemetery landscape.

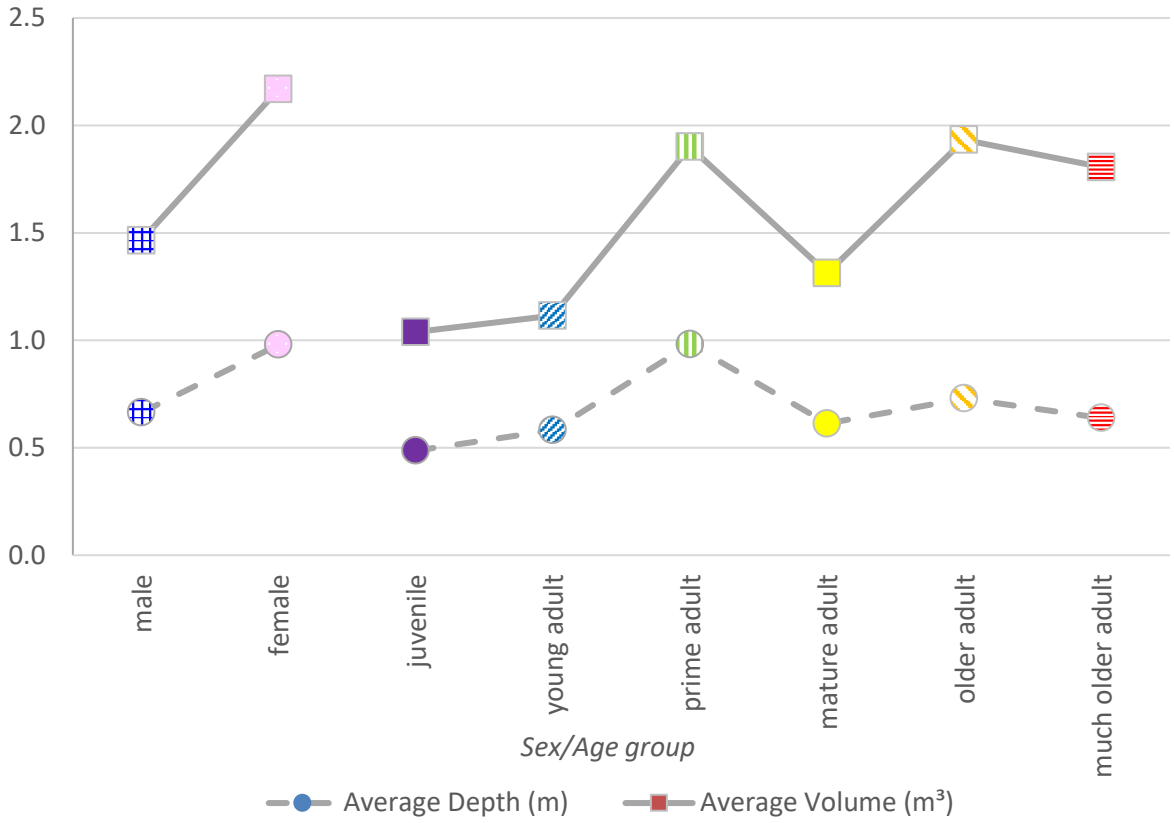

Figure 6.13 - Line graph comparing the average grave depth and volume of the different sex and age categories.

6.7 Summarising the Alington Avenue mortuary assemblage

Cemetery sites rarely reflect estimated mortality rates, and Alington Avenue is no exception. For example, the mortality rates of children in Roman Britain were high, with perhaps 50% of children dying before the age of 10 (Mattingly 2007). The cumulative percentage of infants and young children is 22.9% of the total burial community, and the sample only contains 3 juveniles as the result of the selection criteria (Davies et al. 2002). Similarly, females generally are underrepresented, forming 32% of the sample. Inclusion in the cemetery therefore seems to have been dictated by other selective procedures. One could argue that the higher representation of females in the young adult and prime adult age groups are the result of childbirth related deaths (Roberts and Manchester 2010), however this does not explain the overall trends of increased mortality in the prime adult category in both sexes. Davies et al. (2002) speculated that the inhabitants of Alington Avenue were members of a small community, possibly even a household, spanning over several generations, which still is a plausible interpretation, but difficult to prove.

male,

female,

juvenile,

young adult,

prime adult,

mature adult,

older adult

much older adult.

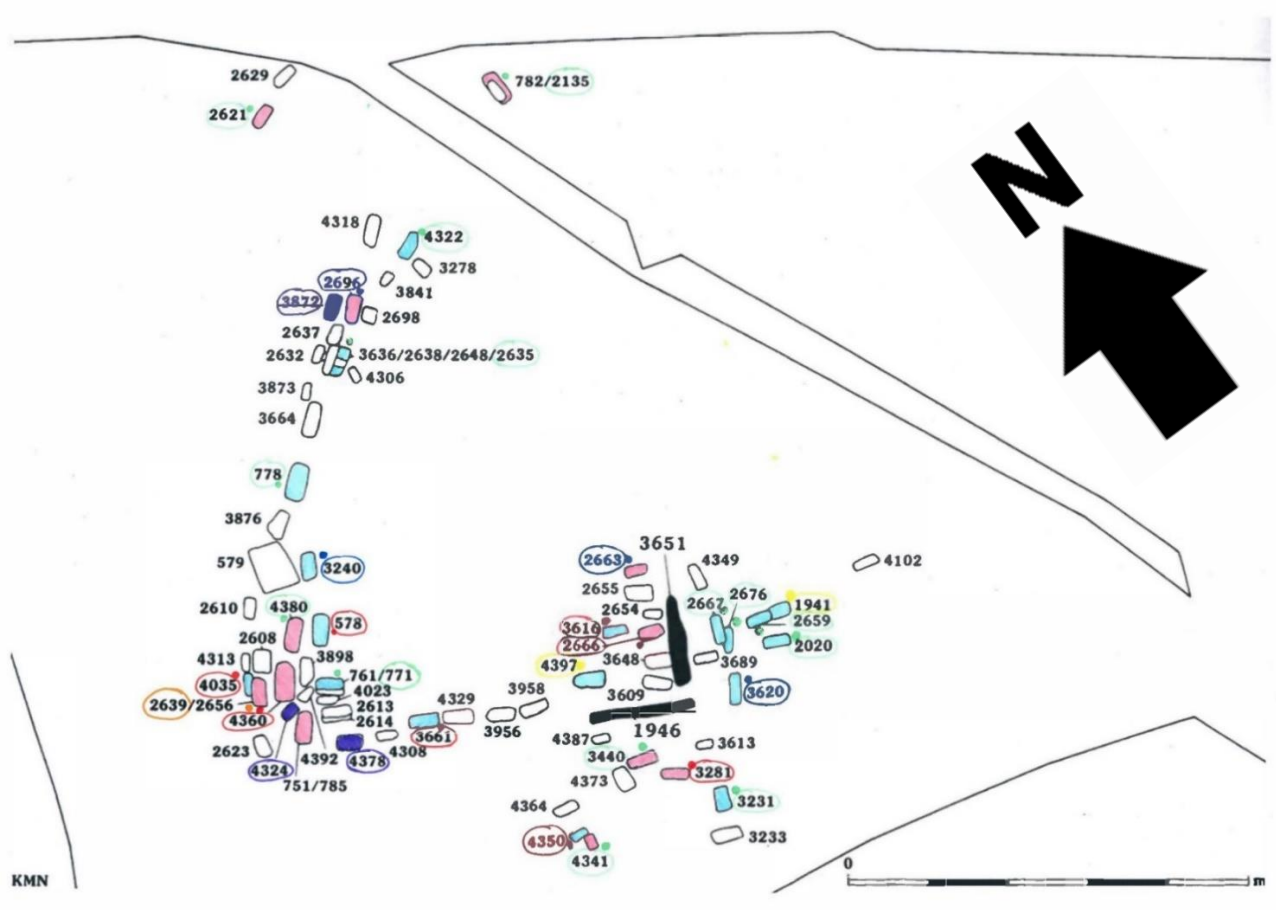

Figure 6.14 - Close up view of D-shaped enclosure at Alington Avenue showing the later Roman graves, with sex and ages of occupants highlighted.

Source: Map reproduced and altered with permission of Wessex Archaeology and Dorset Natural History and Archaeological Society. Illustrator – Karen Nichols (Davies et al. 2002: 130)

male,

female,

juvenile,

young adult,

prime adult,

mature adult,

older adult

much older adult.

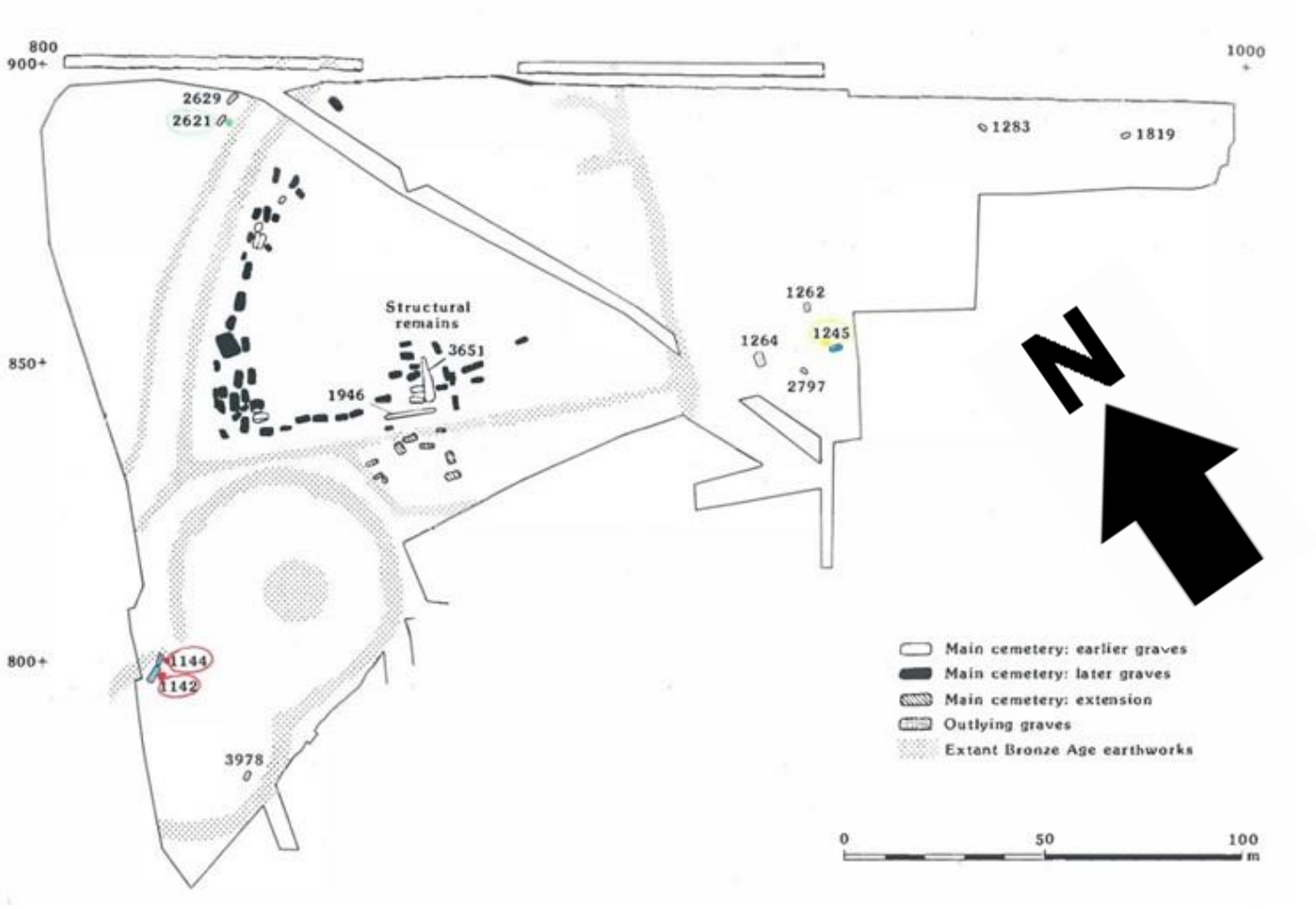

Figure 6.15 - Plan of Alington Avenue showing the later Roman graves, with sex and ages of occupants highlighted. Source: Map reproduced and altered with permission of Wessex Archaeology and Dorset Natural History and Archaeological Society. Illustrator – Karen Nichols (Davies et al. 2002:130)

Four common burial standards have been identified from the Alington Avenue mortuary archaeology, to which more than half the burial sample comply:

- Coffin burial (33/37)
- Supine positioning (30/37)
- Footwear provision (22/37)
- Primary burial (24/30)

21/37 (57%) of individuals in the sample fulfil the first 3 of these criteria. Juveniles and mature adults are more likely to be buried with varied grave provision, perhaps indicating incidence of *mors immatura,* an expression of tragic, unexpected loss (Martin-Kilcher 2000). Palaeopathology encountered varies according to age and sex of the individual. Trauma was exclusively evident in male skeletons. Signs of metabolic disorders were seen in younger skeletons whereas incidents of back pathology and tooth loss steadily rose as age increased.

The aim of this section was to present some contextual information about the cemetery site at Alington Avenue in the later Roman period, with which the individual osteobiographies can be situated. Of course, there was no such thing as a normal life per-se in this sample, as everyone is different, however, by looking at general trends we can establish some typical experiences with which individuals are compared in the next chapter.

A quick note on the colours used in the graphs throughout this chapter. I repeatedly questioned the merits particularly of utilising pink and blue to represent women and men respectively, as I generally abhor gender stereotyping. I could not escape however the clarity the colour offered the graphs. The use of colour was particularly useful to me personally, representing how I access the data. This is also the case for the use of the rainbow colours to represent the ages, it is a pattern I instantly recognise, and so trends are much easier to identify. I therefore have elected to prioritise the clarity of communication and use an annoying stereotype to my advantage. But I must state for the record, that being girly is not just about all things pink!

6.8 Dis/ability at Alington Avenue: an overview

Chapter 7 explores three osteobiographies that highlight different dis/ability experiences, from which three fictive narratives were created. An aim of this thesis was to explore a broader range of impairment and dis/ability experience than has previously been discussed in scholarly studies of disability in antiquity. The osteobiography of AA210 (chapter 7.3) presents a good starting point, however the other two cases lean towards the extraordinary end of the spectrum of dis/ability experience. 81% of the study sample had at least one example of a non-dentition

related palaeopathology; the three osteobiographies cannot fully represent the range of the dis/ability experience that is evident at Alington Avenue. The aim of this section is to redress the balance between the extraordinary and more ordinary dis/ability experiences evident at Alington Avenue and in so doing showcase the dis/ability continuum approach.

6.8.1 The difficulties of implying dis/ability with skeletal evidence: the case of AA244

The osteobiography of AA244 (E.2) provides an example of the difficulties and limitations that can be encountered when developing osteobiographies of dis/ability. AA244 is the skeleton of an older adult female whose second and third vertebrae were fused together, exhibiting Klippel-Feil syndrome. Klippel-Feil Syndrome (KFS) has the potential to impact the osteobiography of an individual extensively. The condition is congenital, although it is not classed as such in this thesis as it presents later in life (Tracy et al. 2004). Conventionally, KFS was diagnosed if a patient presented with the classic triad of symptoms – a short neck, low posterior hairline and limited range of movement – although more recently is has been shown that fewer than 50% of people with KFS have all three traits (Tracy et al. 2004). Patients with KFS often experience pain, neurological complaints and decreased movement of the neck (Tracy et al. 2004).

Anomaly	Percentage of Patients affected
Congenital scoliosis	>50%
Rib abnormalities (excluding cervical ribs)	33%
Deafness	30%
Genitourinary abnormalities	25-25%
Sprengel's deformity*	20-30%
Synkinesia†	15-20%
Cervical rib abnormalities	12-15%
Cardiovascular abnormalities	4-29%

Table 6.1 - List of anomalies associated with Klippel-Feil Syndrome along with prevalence estimates (Tracy et al. 2004).

The clinical literature surround KFS presents a confusing image of the condition, most notably surrounding information relating to its symptomatic prevalence. For example, the Genetic and Rare Diseases Information Center (2020) reports that 80-99% of people with the condition have

* Sprengel's deformity describes a congenital elevation of the scapula (shoulder blade), often restricting movement of the shoulder (NORD 2017)

† Synkinesia is a neurological symptom where a voluntary muscle movement is accompanied by an involuntary contraction of other muscles (Salardini et al. 2012).

facial asymmetry, limited range of motion in the neck, lower posterior hairline and shorter and webbed necks. Whilst Tracy et al. (2004) estimate that 1 in 40,000-42,000 are born with KFS, Zhou et al. (2019) estimate that 1 in 21,000 are born with the condition, with the difference being made up with a high proportion (47-50%) of asymptomatic cases. Klippel-Feil syndrome is associated with other abnormalities which affect different proportions of patients (see table 2), although again reports tend to differ.

The preservation of skeleton AA244, particularly of the spinal column, presents the largest obstacle to telling the dis/ability story of this individual. For example, congenital scoliosis is highlighted in the above table as impacting a high number of people with KFS. Scoliosis is a condition that is well documented in osteoarchaeological literature, with the condition being famously identified in the skeleton of King Richard III (Waldron 2009; Appleby et al. 2014). Yet, in the case of AA244 we cannot be sure of its presence or absence. There are three types of KFS (Tracy et al. 2004):

- Type I – cases with extensive fusions of many cervical vertebrae
- Type II – cases with the fusion of only one or two cervical vertebrae
- Type III – cases where fusion of vertebrae is present in both the cervical and lower lumbar spine.

The lack of preserved vertebrae also means that it is not possible to state which of the three types of KFS AA244 had. The type of KFS is significant as, for example, the risk of scoliosis is higher in types I and III (Tracy et al. 2004), type II is more likely to be asymptomatic (Carreiro 2009) and type III is more associated with pain than the other types (Patel et al. 2019).

AA244 and the diagnosed Klippel-Feil syndrome presents a tantalising possible dis/ability story. The condition has the potential to affect the individual with visual disparity as well as with physical impairment. The preservation of the skeleton however limits what can be inferred in this case. Plotting all the various ways KFS could have affected AA244's dis/ability continuum became a messy and futile exercise (see appendix E.2), particularly in light of Zhou et al.'s (2019) recent finding that asymptomatic cases are fair more common than previously thought, the lack of evidence meant that the potential impact of the condition could not be implied in this case. The osteobiography of AA244, therefore came to demonstrate the frustrations and limitations implicit in the approach adopted.

6.8.2 Dis/ability and back pain at Alington Avenue

The remainder of this section will focus on dis/ability and back pain at Alington Avenue. Back problems present the most common post-cranial pathology type identified in the sample, with osteoarthritic lesions providing a large part of the data (figure 6.6). Much of what is discussed in this section in relation to osteoarthritis can also be extended to appendage joint osteoarthritis. Back pain, however, has recently been found to have a profound impact on modern populations, with 80-84% of the global population being estimated to experience lower back pain at some point in their lives (Borenstein 2004; Plomp 2017). As a result of such high numbers and their implications globally, lower back pain has been the subject of several clinical studies that form the bedrock of this section (Buchbinder et al. 2018; Borenstein 2004; Hoy et al. 2014; MacNeela et al. 2013). The high numbers of people today affected by lower back pain also means that consideration of such lesions not only contributes to a more complete picture of dis/ability in the past, but also reflects experiences common and relevant to a large proportion of the possible readership, allowing further potential to create narratives and stories that further inspire sympathy with past lives (Boutin and Paolucci Callahan 2019).

One reason why back pain is overlooked in dis/ability related discourse it does not usually represent a lifelong condition. For example, 90% of cases of acute back pain subside within 6 weeks. Chronic back pain, as in back pain that lasts over 3 months duration, has been estimated to affect 15-45% of people (Plomp 2017: 151). Back pain is not usually a lifelong condition but does represent an important period in someone's life and a discernible change on an individual's dis/ability continuum and therefore of notable interest in this study.

Establishing the consequences of osteoarthritic lesions has proved a persistent source of frustration for bioarchaeologists. Discerning the clinical impact of osteoarthritis has proven challenging, as no consistent link between osteoarthritic lesions and pain has been identified (Plomp 2017). Individual experience of similar lesions can be extremely variable, from asymptomatic to severely debilitating, and it is unclear why this should be the case. As a result, Tony Waldron (2012: 519) advised readers to leave speculation about the pain and experience of such lesions 'to those who care less about their reputation', leading researchers to overlook the significance of osteoarthritic lesions in dis/ability discourses for fear of their academic reputation. Such difficulties have meant that the impact of osteoarthritis on dis/ability has been overlooked or severely underestimated by bioarchaeologists. But as Kimberly Plomp (2017: 151) rightly asserts 'If back pain impacted the quality of life of individuals in the past even a fraction as much as it does today, it is worth considering during bioarchaeological investigations and could be an interesting aspect of many osteobiographies'.

Finding a happy medium between over-inferring and under-inferring pain and dis/ability in relation to osteoarthritic lesions is challenging. A compelling methodology was presented by Kate Domett et al. (2017), who explored the clinical impact of osteoarthritis in four individuals, from a study sample from prehistoric Thailand, with the most severe cases of polyarticular osteoarthritis, as in osteoarthritis identified in five or more joints. This approach was justified as morbidity of the disease increases with the number of joints affected (Domett et al. 2017). This approach does however again focus on the very extreme cases of palaeopathology found in the sample, four individuals representing approximately 1.7% of the total 229 skeletons studied. Additionally, no examples of polyarticular osteoarthritis were found at Alington Avenue.

Another possible method involves the application of modern prevalence statistics onto historic populations. Modern day statistics indicate high levels of incidence. It is roughly estimated that globally 10% of the population has back pain, with a prevalence peak at 80 years of age (Hoy et al. 2014). So, this would suggest that 10% of the sample could be selected for discussion in relation to back problems, with most of these individuals coming from the much older age group. Section 3.5.1 argues that the concept of *permanence biologique* allows us to make claims about modern bodies that are applicable to ancient ones, however there are undeniable differences in modern and ancient lifestyles, with for example, office work having been found to be a risk factor for back pain. In the application of this approach, one finds oneself playing hypothetical brain exercises. Could the impact of different lifestyles in the ancient and modern worlds be offset by the impact of different medicine care being available? Could such a mental quid pro quo ever be academically justified?

The clinical data relating to the symptom experience linked to palaeopathology is not perfect, particularly because clinical studies usually only include participants who have sought help for a pathology and so misses the asymptomatic cases. Yet, clinical data does provide a starting point. The method used in this thesis has been to imply dis/ability experience in osteoarthritis cases where one or more of the following criteria were met –

- Osteoarthritic lesions were evident in the thumb base, hip or medial compartment of the knees.
- Eburnation is evident in a joint.
- Osteoarthritic lesions were found in the same vertebra as a Schmorl's nodes.

All these criteria have been found to be more likely to be associated with pain and severe, long-term osteoarthritis. In the case of Alington Avenue, of the 28 skeletons with a well-preserved spinal column, 18 had at least one example of a back pathology, which include 14 individuals with

osteoarthritic lesions in the spinal column. Of these 14, seven were found to meet one of the criteria listed above. It is in these cases that pain and dis/ability experience is inferred.

Symptoms for osteoarthritis include pain, tenderness, stiffness, limitation of movement, crepitus, swelling, bony enlargement and joint instability (Jurmain 1999). A clinical study found that lower back pain was associated with difficulty dressing, sitting, standing, walking, lifting and sleeping and linked to feelings of anxiety (Hoy et al. 2014). A clinical study on chronic back pain (MacNeela et al. 2013) found patient impacts included the following:

- Pain disrupts sleep, reduced mobility and impaired self-care.
- Pain can be consistent or the result of frequent flare ups with patients experiencing a mixture of good and bad days.
- Pain can result in social isolation, with patients not being/feeling able to socialise.
- Patients fear for the future, as, for example, patients worry about their next flare-up of pain, when this will happen, how bad will it be, where will I be etc.
- Patients encountered family strain and economic hardships through loss of work.

These symptoms and consequences are easily transferable to the ancient world and provide insight into how a change in a person's body can impact their physical, social and emotional wellbeing, and therefore represents a notable change in their dis/ability continuum. This variation, however, can be complex and differ day-to-day depending the symptoms manifesting at the time.

The increasing global burden of lower back pain has been related to the increasing ageing population, with prevalence rates peaking at 80 years of age in modern populations (Hoy et al. 2014). The high prevalence of back pain in the older age categories is also evident at Alington Avenue with five out of the nine cases classified as symptomatic being from the much older age group, this is half of the entire age category. It is estimated therefore that back pain experience was a common part of the ageing process for people in the study sample. Gowland (2016b) discussed how impairment is a biographical inevitability linked with older age. The symptoms relating to back pain could well have been viewed as a typical part of the ageing process, a change in the dis/ability continuum, but an expected, gradual change that saw the person's body change along with changes in their social role. The gradual nature of the changes also supports the notion that such changes are part of a natural progression. Such attitudes have implications not just to a person's social position but also their behaviour, it having been demonstrated that medical

support may be less forthcoming or sought after if the impairment is normalised. The impact of old age on dis/ability is further explored later in the thesis.

Back pain has been argued to be partially iatrogenic, that is caused by the available medicine (Buchbinder et al. 2018). Increased access to health care has been shown to reset people's attitudes towards ailments, from perceiving back pain as a fairly benign, daily nuisance, to a problem requiring medical attention (Buchbinder et al. 2018). This has implications for ancient populations perceptions of back pain, as although some medicine was available in the ancient world, its efficacy and accessibility was more limited than today's. This finding would help justify the general feeling that past populations were generally hardier than modern people, withstanding daily aches and pains because they had no other choice, perhaps diminishing the impact that such pathology had on past individuals and their dis/ability continuum. Consideration of Igwesi-Chidobe et al.'s (2017) study on the impact of back pain on Nigerian peasant farmer communities is apposite at this point. It is stressed that making inferences from the past through anthropological insights is fraught, with no modern population providing a perfect proxy for ancient communities. Yet peasant farmers have the lifestyle where ill health and impairment are prospects people can ill-afford to encounter. It is noteworthy therefore that even in this setting, people were found to be impacted severely by chronic back pain, some describing their experience as a 'living death' as a way of communicating their feelings of hopelessness (Igwesi-Chidobe et al. 2017). There is evidence that suggests that even in communities where back pain is unlikely to be iatrogenic, it can still be an impairment and dis/ability continuum changes.

The process for electing which cases to infer pain experiences in relation to osteoarthritic lesions is not perfect. For example, of the seven inferred cases, only one was a biological women. This is counterintuitive to findings that suggest women seem to be a higher risk group for osteoarthritis than men. There are several possible reasons why this might be the case, one being that two of the older adult females in the study sample had very poorly preserved spinal columns and so it was not possible to identify osteoarthritis in these cases. Nevertheless, the proposed method offers an approach by which to discuss dis/ability in relation to back pain in a reproduceable and justifiable way and begins to fill in some of the dis/ability story overlooked until now.

Chapter 7 Osteobiographies

The following section explores the osteobiographies of three individual specimens from Alington Avenue, Dorset: AA766, AA852 and AA210. All skeletons included in the sample were dated to 3rd-4th century AD, excavated between 1984 and 1987, reported in Davies et al. (2002) and stored at the Dorset County Museum. These osteobiographies follow the four stages specified in section 5.3.1: description, diagnosis, implications and interpretation, and thus the process, through which dis/ability is identified, is clearly outlined. Each osteobiography in this chapter is also accompanied by a fictive narrative, focusing on a story related to the skeleton under discussion, but portraying the same scene from differing perspectives. To help visualise the changes in dis/ability experience throughout a lifetime, line graph diagrams are used; however, these are left deliberately vague as they do not represent exact quantitative data or statistics. The osteobiographies for the other 34 skeletons studied can be found in appendix E.

7.1 Osteobiography of AA766

Sex: female **Age**: young adult (18-20 years)

Preservation and completeness: excellent preservation, approx. 95% complete.

Grave number: 2663.

Burial description: Primary, singular interment. Sub-rectangular shaped, dimensions - 1.6m long, 0.7m wide, 0.3m deep. Wooden coffin. Position – Supine, arms flexed with hands over pelvis. Head to south-west, orientation 114° (Davies et al. 2002).

Grave goods: hobnails, worn.

Pathologies observed: disproportionate shortening of long bones, hypoplastic mandible, spondylolysis, Schmorl's nodes, enamel hypoplasia.

Stature: 123cm

Specialised analysis: archaeothanatology, dietary isotopes (Redfern et al 2010)

7.1.1 Description

Skeleton AA766 refers to a human skeleton that was originally described by Juliet Rogers in 1989 as part of the Alington Avenue site excavation report (Rogers 2002: 154-157). Despite the skull being damaged during excavation, rendering the face impossible to reconstruct, skeleton AA766 comprises the 'remarkably intact' remains of a young female adult (Rogers 2002: 154).

Figure 7.1 - AA776 laid out to study. Source: author's own image.

Figure 7.2 - AA766's left radius and ulna with radius medial articulation (A) and radial head (B) labelled. Source: author's own image.

The most atypical aspect of this individual is her short stature, which is estimated to be 1.23m tall (c. 4”) at full growth. The following description is a result of my own observations through the direct analysis of skeleton

AA766.All AA766’s epiphyses were fused at time of death meaning she was fully grown when she died. All elements of skeleton AA766 are reduced in size; however the degree of growth curtailment varies throughout the body, with the middle segments of the lower limbs (the radii, ulnae, tibiae and fibulae) and the jaw being the most affected. The skull, vertebral column, pelvis, femora and feet are small but are described as within the range of normal morphology (Rogers 2002: 154).

The radii are severely distorted, with angulation starting at mid-shaft, ending with the entire distal articulations medially angled (figure 7.2, A). The radial heads were both damaged post-mortem (figure 7.2, B). The ulnae are also shortened with narrowing and indentation at the site of the articulation with the radial heads. The proximal and distal tibial articulation surfaces have a splayed appearance. The tibiae are short with a marked medial tilt of the proximal articular surfaces (figure7.3, C) and prominent medial malleoli (figure7.3, D). Articular surfaces between the tibiae and fibulae are relocated and the fibulae extend further inferiorly than the tibiae (figure 7.3, E). The fibulae are also short but, the lateral malleoli appear normal. The mandible is hypoplastic and the inferior corpus is bilaterally arched. The mandibular rami have impeded growth and a wider than average mandibular angle (figure 7.4).

Figure 7.3 - AA766's right tibia and fibula with proximal articular surface (C), medial malleolus (D) and fibula lateral malleolus (E). Source: author's own image.

Stature is estimated as 1.23m, which contrasts with Rogers' (2002: 154) earlier estimation of 1.3m. A specific stature estimation technique for skeletons with dwarfism has yet to be developed (Traversari 2020), therefore Trotter and Gleser's (1952;1958) stature estimation equations were applied. The estimate was calculated using the first equation for female skeletons, which uses measurements taken from the humerus, femur and tibia (see appendix C). This means that elements of varying levels of curtailment were included, encouraging confidence in the estimation.

Figure 7.4 - AA766's lower jaw (right) compared with another female's jaw (left). Source: author's own image.

Skeleton AA766 has extensive vertebral pathology. Thoracic vertebra (T) 12 has severe Schmorl's nodes on both the superior and inferior surfaces and T11 has a slight depression on its inferior surface. All lumbar (L) vertebrae have moderate to severe Schmorl's nodes on the vertebral body surfaces. L5 is compressed posteriorly and exhibits a case of spondylolysis, where the neural arch has detached from the vertebral body (Waldron 2009). Both orbits have porotic changes rated as type B and C, consistent with the presence of cribra orbitalia, which was active at time of death (Brothwell 1981: 165).

All adult teeth in skeleton AA766 have erupted and there is evidence of dental pathology. The bilateral maxillary premolars (P) 2 have been displaced and pushed lingually in line with P1, the probable result of the hypoplastic jaw. There is also evidence of five carious lesions, four in the maxilla and one in the mandible. The upper and lower left side first molars were worn to the root, likely the result of the carious lesions. All the surviving teeth have slight calculus on them. The canine teeth in the mandible are congenitally missing. The maxillary incisors have enamel hypoplasia present.

7.1.2 Differential Diagnosis

The following section briefly describes the different medical conditions that can cause impeded growth, such as that evident in AA766's remains, and will explain the rationale behind the classification of AA766's impairment as Langer type mesomelic dwarfism.

Achondroplasia, the most common form of dwarfism, primarily affects the femora and the humeri and tends to be associated with a large, bulbous skull, and depressed nasal bridge: none of this is evident in AA766 (Ortner 2003). Pituitary dwarfism is characterised by proportional impeded growth throughout the body and by a delay in the secondary centres of ossification, with the epiphyses remaining open long into adult life: this pattern does not match skeleton AA766's pathology (Ortner 2003).

Mesomelia is an umbrella term for a group of disorders involving the mid-portions of the limb buds. Mesomelia usually stems from an autosomal dominant inheritance pattern caused by mutations in the SHOX gene, which is pleiotropic in expression, meaning that a gene affects two or more, seemingly unrelated, phenotypic traits (Kiss et al. 2009: 25). Mesomelic dwarfism affects the upper and lower limbs and is associated with atypical clubfeet, radio-ulnar and tibio-fibular and intertarsal synostosis and deformities of the elbow joints (Szendröi and Sim 2009).

Dyschondrosteosis is a mild form of mesomelia, with a matching genetic providence (Cummings and Rega 2008; Kunze and Klemm 1980). Dyschondrosteosis, however, does not tend to severely

impact stature, therefore proving an incorrect diagnosis in the case of AA766. There are two forms of mesomelic dwarfism: Langer and Nievergelt types, which differ because the latter is characterised by proportionate shortening of the tibiae and fibulae and multiple synostoses of the radii, ulnae and tarsal bones: AA766 does not present with this proportionality (Shapiro 2016).

Langer type mesomelic dwarfism therefore seems the best fit diagnosis when describing these remains because the condition tends to affect the middle segments of extremities and the jaw more significantly, as is seen in skeleton AA766. The diagnosis matches that by Rogers (2002).

7.1.3 Implications

Langer type mesomelic dwarfism is a rare condition today and historically. The most in-depth data has been documented by Dr Leonard Langer, from whom the condition gets its name, who recorded the progress of the condition in two living subjects (Langer 1967). From this it is known that mesomelic dwarfism is not associated with mental impairment or serious physical disability (Langer 1967). AA766's diagnosis presents an unusual opportunity to map the physiological progression of an impairment over the course of a known individual's lifetime. At time of death, skeleton AA766 was around 18-20 years old. At this point, we would expect an individual to have already gone through several of the key life-course stages, such as birth and puberty (Allason-Jones 2005; Harlow and Laurence 2002). The following section details the progression of the impairment over three broad age categories: infancy, childhood and adulthood, and explores the implications of the palaeopathology exhibited in AA766 upon the experience at that stage of life.

Firstly, however, a brief discussion is required of the likelihood that AA766 was a slave. There is no concrete evidence confirming or denying AA766's slave status. It is noteworthy that Langer type mesomelic dwarfism is a genetic disorder which has a pseudoautosomal recessive pattern of inheritance. The disorder is caused by a missing or altered SHOX genes. SHOX genes are located on both X and Y sex chromosomes in the pseudoautosomal region of DNA (Genetics Home Reference 2020). For mesomelic dysplasia to present, the SHOX gene needs to be altered or missing on both of the individual's sex chromosomes. Recessive inheritance patterns mean that both of AA766's parents need to have carried the gene for her to have inherited the disorder. Therefore, AA766's parents could have had mesomelic dwarfism themselves, or manifested Léri-Weill dyschondrosteosis, a similar but less severe version of mesomelic dwarfism caused when only one of the chromosomes has a mutated or missing SHOX gene, or both may have been asymptomatic (Genetics Home Reference 2020). Léri-Weill dyschondrosteosis is possible to identify in the palaeopathological literature (Cummings and Rega 2008), however, there is no evidence of other people with mesomelic dwarfism or Léri-Weill dyschondrosteosis in Roman

Dorset skeletal collections and so no evidence of genetic relations from whom AA766 inherited her impairment. A myriad of reasons exist why this may be, including preservation issues or the parents having been asymptomatic.

It is also possible that AA766 moved away from her biological family. Female migration has been argued to be relatively unusual in the Roman world, however, when it did occur, a key driver of migration was the slave trade (Woolf 2013). There is much evidence that people with dwarfism, and other visible impairments, were highly prized slaves in the late republican/early imperial period (Garland 2010; George 2002; Southwell-Wright 2013; Trentin 2011). It has been suggested that their popularity was related to their ability to be entertaining and make people laugh. When people with dwarfism are artistically represented in the Roman world, they are sometimes dancing, playing instruments, or dressed as gladiators, emphasising their roles as entertainers (Garmaise 1996). Their ability to make a person laugh has been argued to imbue people with dwarfism with the apotropaic attributes that protect against the evil eye (Garland 2010; Southwell-Wright 2013). This presents an ambivalent situation for people with dwarfism; living in a society which mocks and ridicules them, and simultaneously prizes and values them. The applicability of this to 3rd-4th century AD Roman Britain is difficult to determine, for example, the artistic representations of people with disabilities seem to have been popular between 100BC-100AD in the central Mediterranean (Stoner 2015). The superstition relating to a dwarf's ability to protect against the evil eye has, however, been reported as late as the Renaissance and Ottoman eras (Miles 2000; O'Bryan 2012).

There is no indication that AA766 was a slave. Isotopic analysis to test this migratory hypothesis for AA766 could further enhance our understanding of her life, helping to determine whether she lived and was buried amongst family or owners. A role as a slave would have a big impact on her projected life course. Roman Britain was a slave using society. The proportion of enslaved to freeborn was very low, especially compared to Roman Italy where 10-25% of the population held servile status, however many British slaves were exported away (Mattingly 2007: 294). With the data available, AA766 would seem most likely not to have been a slave and this forms the understanding for the rest of the below discussion.

Infancy

Humeri	Short but morphologically typical
Radii	Proportionally shorter than humeri with mild curvature
Ulnae	Short and thick with delayed ossification of the distal half of the bone
Femora	Short but morphologically typical
Tibiae	Proportionally shorter than femora with a broad shaft and mild medial angulation of the proximal metaphyses.
Fibulae	Delayed ossification of fibulae with only the distal end so far developed
Other	Skull, spine, pelvic girdle and bones of the hand appear normal although there is ulnar deviation of the hands.

Table 7.1 - Table summarising the progression of Langer type mesomelic dwarfism during infancy (Langer 1967).

From the clinical data, it is clear that some physiological differences related to the Langer type mesomelic dwarfism are visible at birth (Fryns and van den Berghe 1979). During infancy, mesomelic dwarfism is almost exclusively apparent in the bones of the forearm and shin, mostly due to their short length, although changes in the shape are beginning to manifest. There is delayed ossification in the ulnae and fibulae.

AA766 survived infancy and obviously passed any selection processes infants may have been subjected to, despite her visible, physical differences; a notable achievement in light of the intense debate surrounding the infanticide of people with disabilities during the Roman period (see section 3.1). Skeleton AA766 is the only example of congenital impairment from Alington Avenue (Davies et al. 2002). It would therefore seem that, despite some apparent differences from birth, it was judged that the individual was worth rearing and utilising resources to ensure their survival. It is key to remember, however, that as modern observers we are equipped with knowledge about the impairment that the Roman Britons were not; for example, they may not have known that Langer type mesomelic dwarfism is a permanent condition from which AA766 would never "recover".

AA766 was a biological female. In the Roman Empire, gender dictated the projection of the life course from an early stage, with the *dies lustricus*, the naming rites of infants, taking place on the eighth day after birth for girls and on the ninth day for boys (Allason-Jones 2005; Dasen 2009; Laes 2013; 2014). We cannot be certain of the naming rites exact form and timing in the context

of Roman Britain however, it is noteworthy that the above timings did have wide application throughout the Empire (Allason-Jones 2005; Laes 2014).

Childhood

Humeri	Short with a slight prominence in the region of the deltoid attachment. Distal metaphyses are broad but otherwise normal. In later childhood there is premature fusion of the proximal epiphyses causing a varus deformity.
Radii	Proportionally shorter than the humeri with marked bowing. The distal physes undergo asymmetric premature fusion and results in volar angulation in late childhood.
Ulnae	Short and thick
Femora	Short with early closure of the distal femoral physes.
Tibiae	Proportionally shorter than the femora. In older childhood the proximal epiphyses are relatively flat and undergo early fusion with the shaft.
Fibulae	Short and lie adjacent to the distal tibial shafts, about half the length of the tibiae. No epiphyseal centres were noted at 6-7 years. At 9 years there was a small deformed proximal epiphyseal centre.
Other	The tali and posterior portion of the calcanei appear large in relation to the other bones of the foot which look normal. The mandible shows slight hypoplasia, otherwise there are no other atypical differences.

Table 7.2 - Table summarising the progression of Langer type mesomelic dwarfism during childhood (Langer 1967).

In summary, the pathology is most apparent in the bones of the forearm and shin. In childhood, some epiphyses have prematurely fused already and are beginning to distort the typical shapes of bones. Most clinical cases of Langer type mesomelic dwarfism describe normal motor skill development, but an individual did report a failure to walk until the age of three (Langer 1967). It is therefore possible that AA766 too was delayed in walking. AA766's maxillary incisors show several incidents of enamel hypoplasia. There is no reason why the Langer type mesomelic dwarfism would be a direct biological cause of this lesion. The enamel hypoplasia indicates therefore several phases of health stress between the ages of 1.5 - 4.5 years whilst the enamel of the front teeth was developing (AlQahtani et al. 2010). Enamel hypoplasia was not unusual at Alington Avenue, with 5 out of 35 individuals with preserved dentition in the sample having signs of the pathology (including all three juvenile skeletons) suggesting that the health stress was not

necessarily related to the dwarfism. By age 11, AA766's tibiae and radii had started to fuse early (Langer 1967). Early fusion causes joints to broaden and splay as the long bone shafts continue to grow but cannot increase in length. As a result, not only would morphological differences be apparent at this stage, but overall stature would also be impeded compared to her similarly aged peers.

By the age of 18-20 years, women in the Roman period have gone through puberty. There is no clinical evidence that mesomelic dwarfism has any impact on the onset of menarche and fertility (Baxova et al. 1994; Langer 1967). Therefore, there is no evidence that AA766 would have experienced menarche differently for biological reasons. The ossification of the iliac crest correlates with menarche in girls (Shapland and Lewis 2013). The iliac crest is fused in AA766's case, indicating the end of the puberty growth spurt (Buehl and Idell Pyle 1942). AA766 is likely to have experienced menarche at a similar age to other Romano-British females. Arthur et al (2016) estimated menarche to occur between 15-17 years of age, whereas McGovern (2019) calculated a mean age of 14.1 years for menarche. It is during puberty that skeleton AA766's bodily differences would have become more apparent, especially when compared to her age group contemporaries, whose height much exceeds hers (see figure 6.4). We can therefore postulate that it is during this stage of the life course that skeleton AA766 experiences began to be more affected by attitudes towards her difference.

Skeleton AA766's wrists are restricted in size due in particular to the medial angulation of the distal radius, which allows less space for the carpal bones to develop and articulate (see figure 7.2). This results in Madelung's deformity, a condition characterised by malformed wrists, and often associated with dyschondrosteosis and other types of dwarfism like achondroplasia (Ghatan and Hanel 2013; Villeco 2002; Waldron 2009). This condition is usually recognised and diagnosed between ages 8-14 years through physical examination. The usual mechanism for Madelung's deformity is due to partial closure or failure of development of the ulnar side of the distal radial growth plate. Madelung's deformity presents with deformity, decreased grip strength, limited range of motion and often pain in the wrist relating to ulnocarpal impaction (Kozin and Zlotolow 2015).

Adulthood

Humeri	Short with some varus deformity of the head.
Radii	Deformity of the head, marked radial angulation of the shaft and additional radial and volar curvature of the deformed distal end.
Ulnae	Short and broad with indentation secondary to pressure from the deformed radial head. The hands are ulnarly angled.
Femora	Femoral necks are short, the trochanters and condyles are large.
Tibiae	Short and broad with tilting of the proximal articular surfaces in relationship to the long axis of the bones and a prominent medial malleolus.
Fibulae	Short and lies adjacent to the distal tibial shafts.
Other	There is some distortion of the proximal row of the carpal bones, but the remaining bones of the hand appear normal. Lateral displacement of the tali and deformity of the tali and calancei. Mild hypoplasia of the mandible with short condyles are evident.

Table 7.3 - Table summarising the progression of Langer type mesomelic dwarfism during adulthood (Langer 1967).

By adulthood, the condition has fully progressed. Fully grown, AA766 reached 1.23m tall. The dwarfism is consistently most apparent in the forearms and shin bones, however by adulthood there is also some evidence in the lower jaw. The pathology has affected the shape of the bones as well as the size, causing curvature towards the central plane of the arm or leg. At this stage of life, the individual's full stature would be clearly different from that of other adults; the average height for women within the Alington Avenue sample having been calculated as 1.60m (figure 6.4).

On top of that already described, skeleton AA766 also exhibited other palaeopathology. AA766's lower back, including lumbar (L)5 and sacrum, show excessive curvature, known as lumbar lordosis (or sway back, hollow back or saddle back) (Waldron 2009). This condition is heavily associated with achondroplasic dwarfism and Langer (1967) identified lumbar lordosis in one of his case studies. The vertebral body of L5 shows signs of extensive posterior compression and spondylolysis, a condition where the neural arch is detached from the vertebral body (Waldron 2009). Spondylolysis is reported to have a prevalence rate of 3.74% in Roman Britain and is more commonly associated with pain than not (Plomp 2017: 148). Lumbar lordosis and spondylolysis are commonly associated together clinically (Been and Kalichman 2013). Spondylolysis is also

linked to severe stress on the spine resulting from repetitive trauma (Waldron 2009). In modern clinical literature, lumbar lordosis is reported to cause pain, muscle spasms, tingling or numbness and bladder/bowel difficulties (Lillis 2018).

AA766 also exhibits numerous examples of Schmorl's nodes throughout her lower spine. Schmorl's nodes are the osteological lesions resulting from a slipped vertebral disc that has herniated into the bony tissue of the adjacent vertebral body (Waldron 2009). Schmorl's nodes are fairly common at Alington Avenue, with ten adults in the sample having some evidence for the pathology. AA766 is comparatively young to have experienced a lesion like this within the Alington Avenue sample, eight of the other individuals being prime adult or older. Additionally, AA766's spine shows the highest incidence of Schmorl's nodes of anyone in the sample. Schmorl's nodes could be a complication of the spinal curvature discussed earlier. Vertebral pathology is challenging to understand because the ramifications can range from very severely debilitating to completely asymptomatic (Faccia and Williams 2008).

AA766 also exhibits evidence of anaemia through the presence of cribra orbitalia. Cribra orbitalia describes porotic lesions found in the upper eye orbits (Roberts and Manchester 2010). The cribra orbitalia present demonstrates a later incidence of health stress than the enamel hypoplasia discussed earlier due to it being active at time of death. Adolescent women are particularly at risk of iron deficiency due in part to menstrual blood loss (Ferguson 2017). Metabolic disorders are not unusual at Alington Avenue, with 9 out of 37 individuals presenting palaeopathological evidence of such type. This is unsurprising in light of work at nearby Poundbury Camp which showed high incidence of metabolic stress (Lewis 2010; Roberts and Manchester 2010). Anaemia can contribute to fatigue, cognitive deficits and loss of body weight and, as Sonia Zakrzewski (2014) points out, affects an individual's sense of health and thus their abilities.

AA766's dietary isotopic signature places her within the 'G1' cluster, which seemed to have a less marine based dietary provision than the other cluster (see figure 6.5). This increased marine diet has been explained as the result of varied foods available from the local urban centre (Redfern et al. 2010). It could perhaps therefore be postulated that by contrast AA766 did not have this elevated access. She was not, however, alone in this restricted access. Her isotopic signature overall did not stand out as unusual compared to a number of her burial peers. It could perhaps be the case that impairment increases the likelihood of an individual having a restricted diet, however, without wider study, this theory cannot be more than speculative (see section 6.3).

At the age of death, skeleton AA766 could have reached the stage where marriage and children could be expected. Allason-Jones (2004) claims that 54% of women in Roman Britain had given birth at least once by aged 21. There is no evidence of the marital or motherhood status of

skeleton AA766. In ancient sources, the effect of impairment on a woman's marital prospects was heavily implied to be negative (Gevaert 2012). Marriage is a key stage of the Roman life course, particularly for women. The effect of visible impairment on a person's marital prospects has been described as a key issue surrounding women with impairments in the Roman world, at least according to literary evidence (Gevaert 2012). It is proposed that AA766 was unlikely to have been married at time of death. This assertion is made based on the fact that the youngest bride known from Romano-British epigraphic data was 19 years old, placing AA766 at the very edge of marital age. Younger brides are well attested for in Rome, but the Romano-British trend for slightly older age of marriage may be related to the generally later onset of menarche (Allason-Jones 2005; Arthur et al. 2016). Additionally, McGovern (2019) has found, from studying the development of Romano-British women's pelvic girdles, that they were unlikely to be able to give birth vaginally before the age of 18, offering another reason for the older brides. Despite this, marriage could well have been part of AA766's projected imminent future. Ugliness has been described as a form of disability in the Roman period (Gevaert 2012). As discussed earlier, dwarf bodies were imbued with apotropaic powers, through their potential to illicit laughter and mockery (Garland 2010; Masséglia 2015; Mitchell 2013; Trentin 2017). If these ideas were communicated widely around the empire, we could construe that dwarfism was considered ugly, and therefore impacted marriageability. Additionally, if Dasen's (2007) theory, that people with dwarfism were perceived as lifelong children, is correct, this would also impact a person with dwarfism's image as a candidate for marriage. In the case of skeleton AA766, this association is not evident.

From ancient sources, it seems that impairment affects the marriageability of women more than men (Gevaert 2012). This may be related to men typically being expected to marry at a much later stage than women, when one could argue that youthful good looks would have begun to diminish anyway (Harlow and Laurence 2002; Lelis et al. 2003). This trend of brides being significantly younger than their husbands is evident also in Roman Britain (Allason-Jones 2005). Therefore, it could be argued perhaps that impairment disproportionately affected the marital prospects of females.

Alongside marriage comes the expectation of children. Studies of inscriptions from Roman Britain has estimated that on average there were two children per family in the province (Allason-Jones 2004; 2005; 2012). Complications surrounding pregnancy and childbirth were a common cause of death, and this has been proposed as the cause of the greater mortality risk demonstrated in females at Alington Avenue in the young adult and prime adult age groups (see section 6.1). There is no evidence that skeleton AA766 died during pregnancy or childbirth, but this option cannot definitively be discounted.

Figure 7.5 - AA766 in situ. Source: Dorset County Museum.

One theory that aims to explain the infrequent instances of atypical burial revolves around violent and unexpected deaths (Taylor 2008). This notion is more extensively explored in relation to skeleton AA852 (section 7.2). It suggests that atypical burial represents the burying community's fear of the deceased and that their untimely death could provoke hostile reactions from an unsettled spirit (Taylor 2008). This idea links atypical burial practice to uncertainty and unpredictability. If we accept this hypothesis for a moment, we could perhaps argue that conversely skeleton AA766's death did not present the burying community with these fears. Perhaps this individual was perceived as more likely to die young. Similarly, there is no evidence of Martin-Kilcher's (2000) *mors immatura*, a concept that interprets richly furnished graves as marking a premature death, often of young, unmarried women. Again, this suggests that the early death of AA766 was not a surprise to the burying community.

There is no evidence that might identify the cause of skeleton AA766's death, however there is indications of numerous episodes of ill health. Several lines of enamel hypoplasia within the maxillary teeth point to periods of stress whilst the incisors developed (AlQahtani et al. 2010; Ogden 2008). There is also evidence of active cribra orbitalia at time of death; this is another indication of health stress, albeit this time in adulthood (Waldron 2009). The pathologies point towards periods of ill health throughout skeleton AA766's life course. These may have resulted in a known level of sickliness associated with the individual, thereby perhaps rendering her ultimately young death less surprising.

The mortuary provision of skeleton AA766 suggests acceptance and integration. The burial is situated within the main cemetery group (figure 7.6). Archaeothanatological analysis of the intact labile joints, particularly in the left hand and cervical vertebrae, confirms that AA766 was found in their primary interment and was not subsequently moved (see figure 7.5). Additionally, analysis suggests that the individual was wrapped in the burial, the clavicles having undergone verticalization (Duday 2009). The discovery of hobnails in the burial suggests that the individual was likely clothed. The feet bones are disarticulated, suggesting that they decomposed in a void space, such as a coffin, that allowed them to fall out of position (Duday 2009). The individual shows little evidence of differential mortuary treatment that could be interpreted either positively or negatively. The individual's grave fulfils the classic Alington Avenue burial rite criteria of a primary burial, supine posture, and shoes and coffin provision (see section 6.7). Skeleton AA766's burial location is part of the central burial cluster (see figure 7.6); this seems to point towards social inclusion. A possible inconsistency within this trend is that the dimensions of the grave reflected the shorter stature of the individual although this might simply be a pragmatic decision. The burial is shallow, at 0.3m deep, but not the shallowest at Alington Avenue (see

figure 6.12) and, without further signals, if would be difficult to justify classification as a hasty or careless burial purely on this basis.

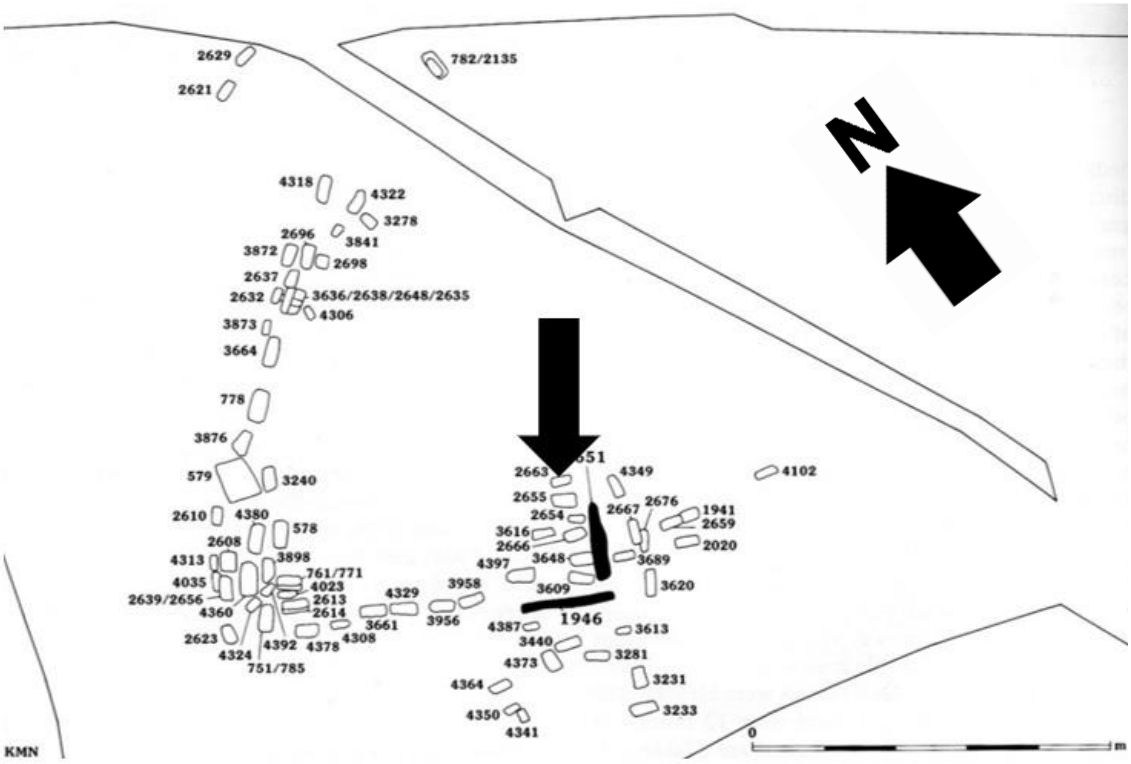

Figure 7.6 - Plan of Alington Avenue (close up) with AA766's highlighted. Map reproduced and altered with permission of Wessex Archaeology and Dorset Natural History and Archaeological Society. Illustrator – Karen Nichols. (Davies et al. 2002: 130).

7.1.4 Discussion

In order to discuss skeleton AA766's everyday experiences and ascertain whether these were typical within a Romano-British setting, it helps to establish what a typical experience was. Developing an understanding of the average Romano-British woman's daily life, however, remains, at best, a challenge (Allason-Jones 2005; 2012). This is especially difficult within a rural setting, which has been estimated to be the everyday reality for the majority of the Romano-British population (Allason-Jones 2005). Alington Avenue is situated in close proximity to the town of Dorchester, which became the key location for commercial and political business (Revell 1999). Despite Allason-Jones' (2005) conservative assessment that rural women's interaction in the urban sphere was restricted to market days, it seems feasible that skeleton AA766 did visit Dorchester during her lifetime. Postulating that the individual interacted with the urban centre offers the opportunity to reconstruct the experience of a lived environment; the urban proving more accessible than the more ephemeral rural.

People's experience of Roman urban space differed on the basis of age and sex. Certain spaces within the urban landscape were for the exclusive use of either men or women. For example, the senate was only accessible to men, reinforcing a woman's lack of political agency (Boatwright 2011; Laurence 2007). In Roman Britain, forums have been demonstrated to have gendered spaced demarcated by colour (Revell 1999). The rules and the materiality of the urban space necessitated the inhabitants to interact with the paradigms and performances which created Roman citizens, gender distinctions and cultural norms (Laurence 2017; Revell 1999). The experience of children also differed as, for example, landscapes have been noted to hold increased dangers for children due to their smaller size (Rogers 2015). A particularly inspiring study was undertaken by Ray Laurence (2017), who used child stature data to reconstruct the haptic and sensory experience of children in the urban environment of Pompeii. Similarly, the work of Reidar Aasgaard (2015) demonstrated that size strongly affected how urban space was experienced, through the fictive reconstruction of a child's experience of 5th century AD Constantinople. These studies' insights have implications for an adult with reduced stature, such as AA766.

The experience of the urban space of Roman Dorset can never be accessed to the same level achieved at Roman Pompeii or Constantinople because the archaeology is not preserved as well, in no little part due to the later quarrying of the Roman material by Saxon and Medieval occupants (Putnam 2007). Despite this, a number of public architectural features have been identified including: a forum/basilica complex, amphitheatre and aqueduct (Mattingly 2007: 268). Limited evidence of epigraphy has been found in Dorset, including three examples of tombstones, one milestone and one altar, which have been repurposed, often as part of churches (Palmer 2019). Epigraphy, therefore, did exist in Roman Dorset, although to what extent is indeterminable. The current known examples likely present a small proportion of what actually existed, as, for example, the lack of grave intercutting at Alington Avenue strongly implies the use of grave markers, which are now missing (Davies et al. 2002; Putnam 2007). The most complete example of an inscription is the tombstone of Carinus found in Fordington measuring 35in by 28in (88.9cm by 71.1cm) (Palmer 2019). The item would have been taller originally as the base has been broken off. Laurence (2017) describes how Pompeiian children interacting with statue bases and altars between 1.08m to 1.36m tall, would likely struggle to see the top of these artefacts, but instead had better access to the tactile experience of touching the incised surfaces. The Carinus tombstone is likely to have fallen between these two height measurements and so AA766's interaction with Carinus' tomb could mirror that of a Pompeiian child's interaction to an object of similar height. The nature of the material culture and the way it is designed dictate the interactions people have with it; so, in the case of Carinus' tombstone, its size has dictated that

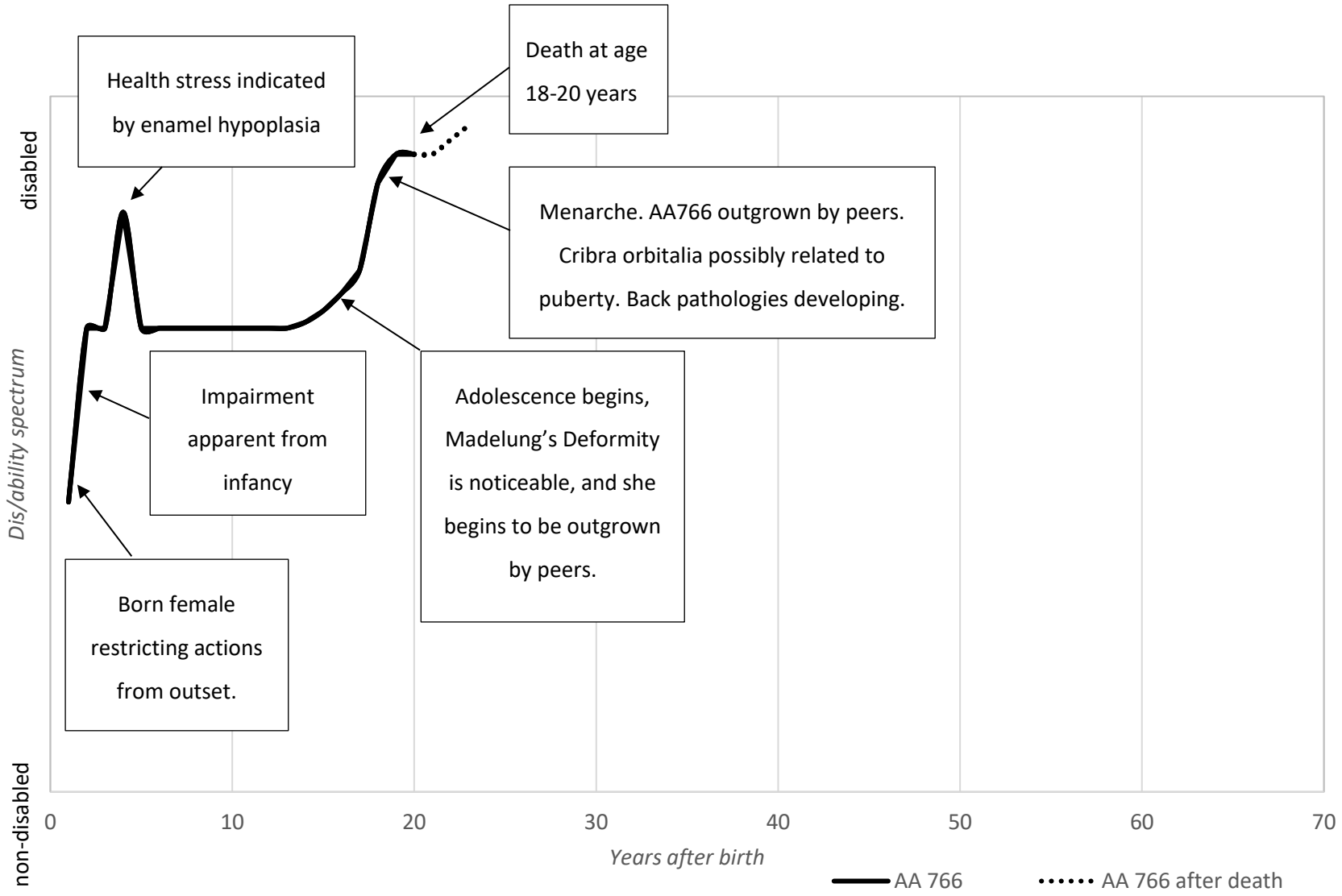

Figure 7.7 - Dis/ability continuum variations over AA766's lifetime.

children and AA766, whether intentionally or not, have a different experience of interaction than other adults. Thus, AA766's interaction with material culture remained child-like throughout her life. An urban environment designed for the average adult as Dorchester likely was, would highlight a person with dwarfism's difference in stature and reinforce the individual's differential perception of themselves.

The key industries of Dorset involved agriculture, and the manufacture of black burnished ware and shale (Putnam 2007; Revell 1999). Discussing everyday industries and work of Romano-British women is an almost impossible task, due to the scanty levels of evidence. There is limited indication of the presence of female professions, however, this is unlikely to reflect their non-existence, as that relating to male professions and artisans is also meagre (Allason-Jones 2005; Treggiari 1979). This is a frustrating gap in our knowledge, however David Peacock (1982) offers a small possibility, through anthropological insight, claiming that black burnished manufacture may have been an industry dominated by women. This, therefore, could have provided possible employment for skeleton AA766. It seems more likely, through sheer probability of numbers in the population, that her occupation revolved around agriculture (Allason-Jones 2005).

Skeleton AA766 is a very rare palaeopathological find. Only four skeletons with any form of dwarfism from Roman Britain have been found, and AA766 is the only example of mesomelic dwarfism known in palaeopathological literature (Davies et al. 2002). Dwarfism is a particularly useful impairment to discuss in relation to a socially constructed understanding of disability, as being shorter does not always result in disabilities for the individual; rather disabilities are the result of public perceptions and reactions (Covey 1998). The line sketch (figure 7.7) presents the suggested changes in AA766's dis/ability continuum through her life, as evidenced through the palaeopathology and contextual information. The attribute that perhaps influenced the trajectory of the individual's life the most, was that she was born female. The biological sex set in motion a gendered life course that is difficult to change. Women's life course was focused on marriage and fertility and lacked some of the opportunities that men had, such as the ability to vote and take political office. This will be discussed further later.

7.1.5 Narrative

I wish they would slow down a bit. Even as the solemn procession, carefully picks its way across the increasingly uneven ground of the necropolis, I still feel like I'm trotting to keep up[i]*. I have to jump out of the way of a swinging elbow, a persistent hazard when you are this height*[ii]*. Being invisible to people however is preferable to their stares*[iii]*. Strangers unashamedly scrutinise my small stature, my large hands, my strange gait, my prominent backside, whispering behind their*

hands. I feel self-conscious, but I act defiant. I once heard a stranger in the market say that they would have exposed me at birth if they had had a child like me. 'What kind of future could she possibly have? Who will marry her?[iv]' I struggled to hold back tears until I returned home. My mother had found me weeping in a corner. She told me that in Rome, rich, famous men, like the first emperor Augustus, had paid a lot of money to have someone like me in their household[v]. I don't know if this is true, but it comforts me.

Still I wonder about my future. I am still young but will I ever find someone to marry? I once saw a bronze statue of the Goddess Minerva at Aquae Sulis[vi]. In the dense crowds, I struggled to get a view, until I was directly in front of her. I ran my hands over the lettering on the base[vii]. The statue's beautiful proportioned grace was perfection[viii]. Next to her, my hands look strangely large, as my forearms are so small. Even bronze clothing clings and cascades down her figure in a way real fabric just does not on me. My bottom sticks out making my dresses sit funny on my body[ix]. I saw that statue and thought "that is not me. I will never be like that" [x].

I am brought back from my musings, by the feeling of long, wet grass around my knees. I lift the hem of my dress and refocus. I notice the first of the wooden grave markers of the necropolis, acting as beacons along the route. These outliers seem lonely; I hope I never end up out here[xi]. I can smell the sickly-sweet incense and hear vague snatches of mournful laments and the faint whimpers of a dog, carried by the wind from further ahead[xii]. The eerie sounds seem to feed the atmosphere as we dutifully follow the bier bearing the body of our friend.

He had died suddenly. My father refused to tell me the details of the incident, even though I pressed him, but nothing could block out the sounds of that ill-fated surgery[xiii]. An elder said that sudden deaths like this cause the ghostly spirits to be restless and we needed to protect ourselves. The community therefore decided that, in the circumstances, the body needed to be buried quickly and face down[xiv]. I helped the other women wash and clothe the battered remains, which was a difficult task as the corpse had become rigid[xv]. The arm looked so odd, ending in a stump just below his shoulder. The rest of the arm is still missing. Only the gods know where it has gone[xvi].

Now here we are at the centre of the burial ground and we encircle the already prepared grave with the open coffin waiting inside. The elder continues to implore the gods and our ancestors for our friend and to protect us from restless spirits. The bier bearers lower the body to the ground and begin to awkwardly cram the prone corpse inside the too small coffin. It does not look the most comfortable or dignified of resting places[xvii]. A man leads the whimpering dog up to the grave side. I feel a pang of compassion towards the vulnerable little creature, the dog was the old man's faithful pet, who has descended into melancholy on the death of his master, refusing to leave his side, to eat or sleep. His wife decided that he should be with his friend in death as in life.

The cloud of incense engulfs us, stinging my eyes and making them water. Through my blurred vision, I see the flash of the knife raised high and I squeeze my eyes tight shut. There is a small yelp and the dog is despatched. I rub my streaming eyes with the palms of my hands and look up to see the little dog placed in the coffin at the feet of his master[xviii].

The funeral ends quickly. People are scared, eager to get away and put as much distance as possible between themselves and this place. As I turn away, I wonder about the future. One day I will belong here, within this ancestral heart land, but hopefully not for a long time to come.[xix]

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[i] Alington Avenue cemetery was developed on the site of Bronze Age earthworks around which the burials were dotted (Davies et al. 2002). Although the ancient ground surface does not often survive (Booth 2017), we can at least discuss the impact of these earlier monuments on the landscape, such as dictating the procession route and creating uneven footing. The re-use of prehistoric structures is interpreted as the user community attempting to create relations to perceived ancestors and to each other (Esmonde-Cleary 2000; Pearce 2011b). Keeping with the walking pace of friends and families is a key issue highlighted by JL (see appendix D).

[ii] JL and Mairs (1996) describes incidents like this (see appendix D).

[iii] Staring is a common grievance of people with visible impairments (see for example Garland-Thomson 2009; Howes 2011)

[iv] Parents of children with different types of dwarfism have raised their concerns about the future of their offspring (Stace and Danks 1981). Marriage has been identified as the key rite of passage for Roman women (Harlow and Laurence 2002; Allason-Jones 2005). At age of death, AA766 would have quite young to be married, the youngest known bride from Roman Britain being 19 (Allason-Jones 2005), however it would be part of her near future if following the expected life course trajectory. Exposure and infanticide is known to have happened in the Roman world but it is not known to what extent this occurred (Southwell-Wright 2013; 2014). Exposure however formed part of the founding myth of Rome, so we can presume from this that the theme of exposure was at least known about (see section 3.1).

[v] Refers to the use of people with dwarfism and other impairments as high-status slaves in Ancient Rome (see Dasen 1988; Garland 2010).

[vi] Refers to a known statue head from Bath (Aquae Sulis). Bath had a reputation that spread beyond Roman Britain (Gesler 1998) and there is a direct road connecting Bath to Dorchester and other towns, making Bath potentially accessible (Putnam 2007). This head is believed to have been the head of a life size cult statue (Cunliffe and Fulford 1982).

[vii] This statue interaction has been extrapolated from a study by Ray Laurence (2017) looking at children's differential experience of the urban environment in Pompeii, afforded them due to their shorter height.

[viii] When describing the effect (intentioned or otherwise) of Roman statuary, Trentin (2015) describes how viewers would compare their own bodies to the represented example. The author visualises the effect of this as akin to the viewing of modern, photo-shopped magazine covers, representing an ideal which one compares themselves too.

[ix] JL mentioned that she also struggles to get clothes that fit (see appendix D).

[x] This response is taken almost directly from JL's response to modern magazines (appendix D).

[xi] The outliers described here, refer to one of the few groups of outlying graves from the main group found at Alington Avenue such as graves 2621 and 2629 or 1283 and 1819 (Davies et al. 2002).

[xii] Hope's (2017) work aims to recreate a sensorial landscape of Ancient Roman funerals. The use of incense and musical laments are evident, depicted in several sculptural reliefs mostly from Rome (Hope 2007; 2017).

[xiii] The palaeopathology of AA852 indicates that the individual encountered trauma shortly before death resulting in the right arm being amputated. The nature of the break in the bone points to the amputation having been deliberate, however it is mostly likely to have been the result of medical intervention rather than putative especially as amputation was rarely used as a punishment in the Roman period (see section 7.2 detail).

[xiv] By far the most ubiquitous explanation for atypical burial positions, such as prone burial, is the necrophobic theory, i.e. the theory that the differential burial treatment is a result of the interring community's fear of the dead. (Milella et al. 2015; Shay 1985). The dead were believed to have agency and power in the world of the living, which the living either tried to harness for their own advantage or diminish it if it was detrimental (Esmonde-Cleary 2000). A prone burial was thought to be able to confuse a returning, malevolent spirit. Milella et al. (2015) warn that the necrophobic hypothesis is possibly over relied upon, however they do not offer an alternative option. Several recurring ideas about the causes of necrophobic reactions have been flagged, one of which is a response to violent and sudden death, such as exhibited in the case of AA852 (Hope 2014; Shay 1985; Weekes 2016).

[xv] Graham (2011; 2015) believes that in the Roman republic, before the professionalization of the funerary trade, immediate family had responsibility for the preparation of family member's bodies for burial, particularly women. The evidence for a professional undertaker industry in Roman Britain is almost non-existent, with the possible exception of the clustering and burial location evident in some cemeteries, although this could be achieved at a community level (Phillpott 1991). The effects of rigor mortis are alluded to here. Rigor Mortis begins to take affect between 2-6 hours after death and lasts for up 36 hours after (Weekes 2016).

[xvi] There is no evidence, that the amputated right arm was buried with AA852, despite being removed shortly before death (see section 7.2).

[xvii] Excavation photography of AA852 suggest that the individual was buried in a coffin that may have been too small for him, as evidenced by the bent legs and narrow grave cut (section 7.2).

[xviii] A small dog was found in grave 3661, in direct contact with the leg of skeleton AA852. The image of man's best friend curled up loyally at their master's feet for eternity is temptingly romantic. Dogs have been included in iconography as symbols for fidelity found in Roman Britain. Dogs were also working animals, performing roles such as, hunting, herding, draughting, performing, guarding etc. (Toynbee 1973). The killing of favourite pets to accompany their master into the afterlife is a known practice from Roman literature (Toynbee 1971; Smith 2006).

[xix] AA766 was buried at Alington Avenue a short distance away from AA852 (figure 7.6)

7.2 Osteobiography of AA852

Sex: male **Age:** much older adult (58-100 years)

Preservation and completeness: Very good preservation, approx. 75% complete, much of the thorax is missing.

Grave number: 3661.

Burial description: Primary, singular interment. Sub-rectangular shaped, dimensions - 2.10m long, 0.95m wide and 0.95m deep. Wooden coffin. Position – prone, slightly flexed, legs to left, left arm straight at side, right arm slightly flexed away from body. Head to south-east, orientation 120° (Davies et al. 2002).

Grave goods: hobnails worn, boot cleat, dog skeleton.

Pathologies observed: arm amputation, bilateral ankle abnormalities.

Stature: 175cm

Specialised analysis: archaeothanatology, dietary isotopes (Redfern et al. 2010).

7.2.1 Description

Skeleton AA852, refers to the skeletal remains of a biological male, found in grave 3661 at Alington Avenue. The remains were estimated to be c. 75% complete (Davies et al. 2002: 149) however, at time of study, the majority of the thorax was missing. Application of the transition ageing techniques estimated that the individual was aged between 58 and 100 years old at time of death, placing him in the 'much older' age category. AA852 is estimated to be approximately 1.75m tall (appendix C), which neatly compares with the 1.73m estimate recorded in the excavation report (Davies et al. 2002: 149). Although AA852 notably lacks some of the more common dental pathology extant in the rest of the sample, the skeleton exhibits post cranial pathology, including an arm amputation and bilateral ankle abnormalities. In the ankle, there is a notable extension posteriorly of the posterior facets of the calcaneus and talus, which form the majority of the surface area of the subtalar joint.

7.2.2 Differential diagnosis

The right humerus exhibits evidence of a peri-mortem amputation. The amputation is consistent clinically with an above elbow amputation that removed 50-90% of the humerus (Edwards and Osterman 2015).

Figure 7.8 - AA852 laid out to study. Source: author's own image.

Figure 7.9 - AA852 right humerus amputation. Left – transverse view of humerus amputated end. Right – Anterior view of humerus evident. Source: author's own images.

The distal portion of the humerus, radius, ulna and hand bones of the right arm are missing, however, the damaged distal transverse surface colouration matches the rest of the bone and the surface is not rounded, jagged or rough, pointing towards an amputation that occurred around time of burial (Redfern 2010; figure 7.9). There is no evidence of healing or infection in the humerus. The reparative phase of fracture healing, which is when the first osteologically visible signs of healing would be evident, occurs between two days to two weeks after injury (Waldron 2009). This would suggest therefore that the individual did not survive long after the amputation and that the process of removing the arm may have been, at least, a contributing factor to the cause of death.

The serration marks and the nature of the break evident on the transverse distal surface of the right humerus suggest that the limb was deliberately removed, although necessitating the intervention could have been accidental. Limb amputation, particularly of the right hand, was one of the most serious punishments for offences in the Roman world, seldom used due to its perception as exceptionally cruel (Mavroforou et al. 2014; Wirth 2010). Additionally, punitive amputations are usually intended to result in a surviving victim and so tend to involve the hands or feet (Redfern 2017). Another possibility is the limb amputation was performed post-mortem,

which has been a noted practice in the Roman world as a means of revenge upon the deceased or as a way of inhibiting the dead person's post-mortem vengeance on the living (Wirth 2010). This interpretation would perhaps match well with the necrophobia theory that is discussed below, however the nature of the amputation does not make sense in this scenario. A cut that removes a hand would be a simpler process than the amputation at the upper arm evident in AA852. It is therefore argued that the individual's arm amputation was likely necessitated medically after a traumatic incident.

The bilateral ankle deformity could conceivably be the result of joint hypermobility or high arches in the foot. It is also possible that the pathology is the result of an os trigonum, an accessary bone that develops behind the talus, which has united with the talus, forming a 'Stieda's process' (Vinod Kumar Reddy 2015). The presence of an os trigonum is congenital and, for most people, asymptomatic. It is sometimes described in the palaeopathological literature as a non-metric trait (Finnegan 1978). It has been argued that the presence of an os trigonum is evidence of a fracture, although this claim is controversial (Eberson and Schiller 2010). The Stieda's process can cause chronic pain in the ankle due to posterior ankle impingement syndrome (PAIS), when the process is compressed between the calcaneus and posterior aspect of the tibia, as the result, usually of extreme plantar flexion of the foot, i.e. pointing of the toes (Yilmaz and Eskandari 2006). In the modern day, such experiences are mostly had by sporty adolescents, such as gymnasts and dancers (Eberson and Schiller 2010). The symptoms can include, deep aching in the back of ankle when pointing the toes, tenderness to touch in the area and swelling of the back of the ankle (American College of Foot and Ankle Surgeons 2020). Confirming the extent of symptoms in the case of AA852 is difficult to determine, there being limited data on prevalence. The remainder of this chapter therefore, will focus on the amputation.

7.2.3 Implications

Surgery of any description would have been a risky procedure and a last resort, because of the lack of powerful antiseptics and the high risk of gangrene afterwards (Arnott 2002). The latter was a frequent cause of death (Jackson 1988). Due to the lack of anaesthesia, surgery needed to be swift (Jackson 1988). Celsus devoted a chapter of his work to amputation, and the circular amputation technique is judged to be sound by modern standards (Jackson 1988). This type of amputation involved cutting straight through the skin to the bone and resulted in a stump that was circular in appearance. This is possibly the method used in the case of AA852 but it is difficult to be certain.

A surgeon, whether ancient or modern, faced/s many challenges over the course of treating an individual by means of amputation. The surgeon must determine the salvageability of a limb, an assessment that is often made quickly in cases of trauma or sepsis (Edwards and Osterman 2015). Once the decision to amputate has been made, the level of amputation must be determined. The functional limitations of amputation levels and prosthetic designs, as well as the patient's emotional, physical, and vocational background, are key considerations, especially with upper-extremity amputations (Edwards and Osterman 2015). Doctors nowadays aim to keep the elbow joint, if possible, as this makes a large difference for prosthesis provision (Edwards and Osterman 2015).

Jackson (1988: 68) claimed that '*…the sight of women and children, as well as men, with missing limbs would have been a common one*.' The frequency of osteoarchaeological evidence of amputation in Roman period skeletons is rare and thus is at odds with this statement. For example, AA852 presents the only evidence of amputation within the Roman Dorset skeletal collections, a set of assemblages that has been studied well (Redfern 2010). This may be related to misdiagnosis; an osteoarchaeologist is unable to assume amputation of an entire limb wholly on the basis that the limb is missing, due to preservation factors and possible burial disarticulation ritual (Roberts and Manchester 2010). Despite this, however, an amputation should be a procedure that is relatively skeletally visible.

Furthermore, it is noteworthy that it was the right arm that was amputated. Humer (2012) has argued that to be left-handed in the classical period was a form of social disability, a disability without an associated medical impairment. There are three terms for 'left' in Latin, compared to the one for 'right', pointing towards the importance of the former concept and the need for specificity (Wirth 2010). These terms are *scaevus*, *laevus* and *sinister*, the latter being the Latin origin for the English word 'sinister' (Wirth 2010). All three have negative connotations of unhappiness, unfavourable, awkward, wrong and stupid (Wirth 2010). This linguistic trait associates left with bad and right with good (Humer 2012). Figures vary, however, it is estimated that 7-11% of the world's population today are left-handed (Peters et al. 2006). This great dominance of right handedness is historical; however, the presence of left-handed individuals is evident since early prehistory (Llaurens et al. 2009). Any link between this ideology and skeleton AA852 is wholly speculative, although there is evidence for the continued ideological preference of right hands in Roman British artefact portrayals of hands (Eckardt 2014). This could have interesting ramifications for AA852; not only did the individual lose an arm, but it was their right arm. Given that approximately 90% of the global population exhibits right hand preference (Llaurens et al. 2009), it was most likely, although not proven, to be AA852's dominant arm, and this association of their remaining arm being 'sinister' could have been an extra sting. This issue is

explored further later on (see section 8.2.2), however, it is important to note that, despite this ideology, an attempt to remove the arm and, in the process, potentially save the man's life was still considered the preferable option. An effort to do this operation alludes to an ideology that values and prioritises preserving life. The operation tacitly shows an intention to facilitate care of this individual, at least in the immediate vicinity of the recovery time and possibly beyond. This allows insight into the society in which that individual lived. There was ability, or at least willingness, to care for an individual in the aftermath of a serious operation, as well as an intention to, at some level, accommodate an individual with altered ability.

AA852, however, did not survive long after his operation. The burial is situated within the main cemetery grouping (see figure 7.10). AA852 burial meets three of the four criteria outlined as common for Alington Avenue (section 6.7). The burial is likely primary in nature, as the labile joints in the feet have maintained their anatomical position. Nails found within the burial have led excavators to state that the individual was buried in a wooden coffin (Davies et al. 2002).

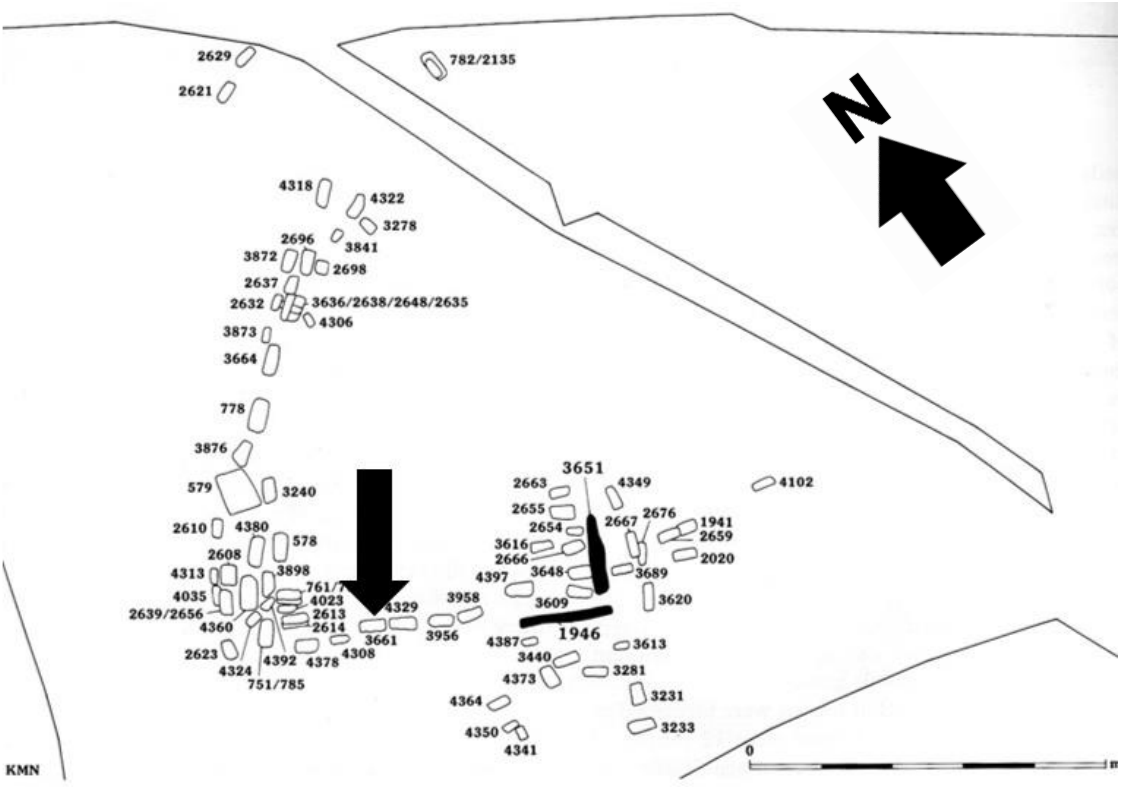

Figure 7.10 - Burial plan of Alington Avenue with AA852 highlighted. Map reproduced and altered with permission of Wessex Archaeology and Dorset Natural History and Archaeological Society. Illustrator - Karen Nichols (Davies et al. 2002: 130)

Nails found within the burial have led excavators to state that the individual was buried in a wooden coffin (Davies et al. 2002). The individual was buried whilst wearing shoes, a common feature of burials at Alington Avenue, as alluded to by the presence of hobnails and a boot cleat

(Davies et al. 2002). Inspection of the excavation photography of grave 3661 suggests that the coffin was too small for the individual (figure 7.11). This is implied from the grave cut visible in the photograph and may explain why the individual's legs were necessarily flexed. If we accept this assertion, such a burial process may seem an action lacking in care. Adding to this hasty and uncaring image of the burial, the grave was measured to be 0.3m deep, therefore a fairly shallow grave, although not the shallowest (see figure 6.12). Coffins were an expensive commodity, and more so if you need one made to measure. AA852 is in the tallest 25% of males studied from Alington Avenue, although not the tallest (see section 6.2). To be buried in a coffin at all was a provision not necessarily undertaken, although it is the most common feature of burials at the site, evident in 33/37 of the sample (Davies et al. 2002).

There are three elements of AA852's burial that are out of the ordinary: the remainder of the right arm is missing, his prone position and the inclusion of a dog skeleton. AA852 did not survive long without his right arm. Despite this, there is no evidence that the individual was buried with the amputated limb, perhaps suggesting that the limb was no longer considered as part of the body anymore and thus not requiring of the same disposal ritual.

The individual was buried in a prone position. Being buried face down is an atypical burial position at the site of Alington Avenue as AA852 was one of only two people to be buried as such at this site. Prone burial has been discussed as a form of atypical burial (Milella et al. 2015; Taylor 2008). Although prone burial is the most frequent form of atypical burial rite, it remains a distinctly minority rite (Taylor 2008). Interpreting these burial types has proved challenging (Crerar 2016; Taylor 2008), however a persistent idea surrounds fear of the deceased or necrophobia. This theory, inspired by ethnographic studies, suggests that fear of the individual's spirit returning to disturb the living motivates atypical burial rite. Necrophobia has been particularly associated with violent or unexpected deaths (Crerar 2016; Milella et al. 2015; Shay 1985; Taylor 2008). Thus especially relevant in the instance of AA852 as a result of their potentially violent end to life.

A small dog was found in grave 3661; the intact articulation of the bones of the animal's leg in direct contact with AA852's leg shows that the dog was buried in direct contact with the deceased (figure 7.11). Grave 3661 is one of two burials that included dog skeletons and is the only grave in the cemetery to include both this and prone positioning.

There are three possible interpretations of the provision of a dog in the burial, which need not be mutually exclusive. The intimate connection of the man and dog lends itself to a romantic image of man's best friend curled up loyally at their master's feet and that the animal was the individual's pet in life. Dogs were kept as pets by Romans throughout the Empire and were associated with the concepts of fidelity and faithfulness (Hildebrandt 2019).

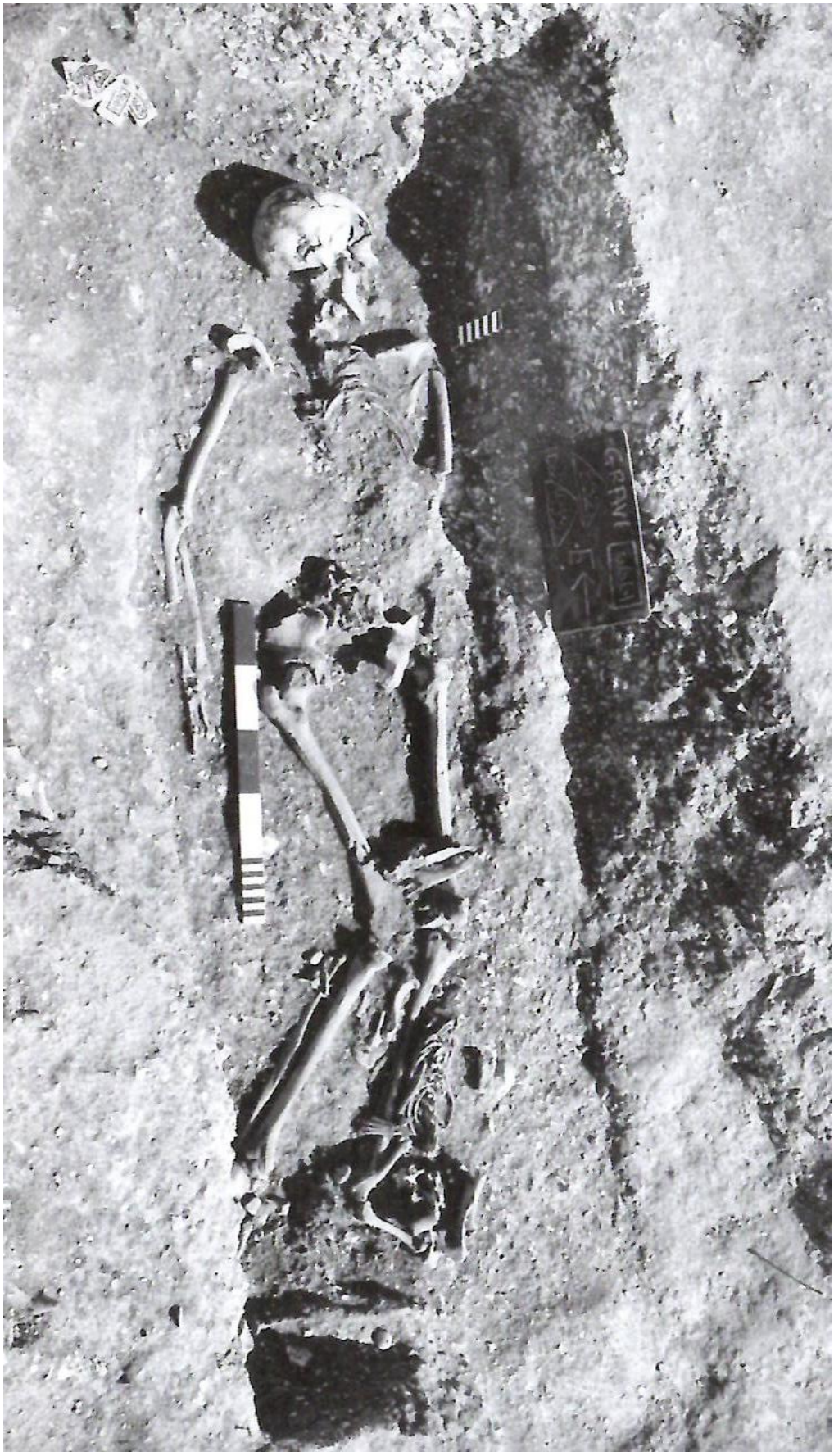

Figure 7.11 - AA852 in situ. Source: Dorset County Museum.

In the UK, there are examples, from Roman Dumbartonshire and Somerset of dogs being used in iconography to represent these attributes (Mazzorin and Minniti 2006). The animal accompanying skeleton AA852 in grave 3661 had a shoulder height of 360-390mm which is larger than a lap dog but too small for hunting, although a function as pest control is plausible (Davies et al. 2002: 115; Cram 2000; Harcourt 1974; Hildebrandt 2019). The killing of favourite pets to accompany their master into the afterlife is a known practice from Roman literature (Toynbee 1971; Smith 2006). Lepetz (2017) is perhaps the most determined advocate for this viewpoint claiming that the burial of animals with people, once proven satisfactorily, shows a desire to bring together the two connected beings, rather than the animal having any involvement in the funerary rite. Although the killing of a pet, on the death of their owner, seems harsh to our modern sensibilities, the overall perception given of this act has been one of kindness towards the deceased.

A second possible interpretation, related to the above, has been influenced by the work of Christina Hildebrandt (2019) who, in her discussion of dog iconography from the 1st-2nd century AD, found that dogs were important symbols for freedmen, representative of wealth and status. It has also been speculated that the inclusion of a small dog in a funerary monument of a Trajanic male alluded to a knowledge of dog rearing which was perceived as an elite knowledge or *paideia* (Hildebrandt 2019). Inferring freedman status is difficult, especially in the context of Roman Britain. The evidence for freedmen in other parts of the empire have been found largely in epigraphic and literary material (Bruun 2015; Webster 2005); evidence that is notoriously scant in Roman British contexts (Webster 2005). It is plausible that the inclusion of a dog in the burial of AA852 could be related to the animal's symbolic importance as part of the individual's freedman status, however without further evidence of this freedman status, the interpretation seems the least strong of the three here.

The third possible interpretation of the dog in grave 3661 is a more ritualistic one which works with the association of dogs with the underworld and their roles as guard and guide dogs. Dog burials in the Roman period have sometimes been interpreted as providing the interred with a companion to guide the deceased to the afterlife (Smith 2006). If the living were concerned that the individual may become a restless spirit, as has been suggested in the necrophobic interpretation of the prone burial position, this may have been a preventative measure that the people undertaking the burial tried. The instances of dog burials with human remains at Alington Avenue have already been described as ritual sacrifices (Philpott 1991; Smith 2006). During this period there were mythological links between dogs and the underworld, not just in the form of Cerberus, the guard god of the underworld in Greek and Roman mythology, but also in Germanic, Nordic, Celtic and Etruscan religions (Egmond 1995; Ferris 2018; Mazzorin and Minniti 2006; Smith 2006; Toynbee 1973). There is other evidence for the ritual significance of dogs at Roman

Dorset, as it has been suggested that the remains of dogs found during excavations of the town of Dorchester are evidence of the rituals undertaken during the founding of the city (Morris 2011a). Dogs have been linked to fertility, healing, fidelity and death (Ferris 2018; Morris 2011b). This curious range of association created an ambiguity around dogs, linking them to the worlds of the living and the dead and giving them a liminal status (Esmonde Cleary 2000; Mazzorin and Minniti 2006; Toynbee 1973).

Dogs' role within the funerary rite has been linked to their roles as guards, protectors and guides (Smith 2006). The dog can be interpreted as helpful to the deceased, guiding the individual to the afterlife (Smith 2006). As a guide they are seen as ideal, being familiar and trustworthy with heightened senses. The dog can also be interpreted as protecting the living from the potential unsettled spirit, another precautionary measure alongside the prone burial position, protecting the living from the dead (Smith 2006). The necrophobic and pet interpretations of the dog's inclusion in the burial have their merits and the author struggles to select between the two. Thus, both possibilities are explored in the narratives.

7.2.4 Discussion

At first glance, AA852 seems an unlikely candidate to discuss from a disability standpoint. AA852 sustained a very severe injury which resulted in an arm amputation, from which they did not recover. The evidence suggests that the majority of AA852's life was without complication from impairment. Indeed, the individual exhibited exceptionally good dental health compared to their Alington Avenue peers, perhaps as a result of hardier dentition. AA852, therefore, having no evidence of severe dental attrition, carious lesions or tooth loss, does not seem to have shared the experience of tooth pain that many of his cemetery peers endured. The individual's isotopic signature falls in cluster G2, which is a dietary signature seeming to show an increased marine component (see figure 6.5), possibly showing a greater variation of diet than found in the majority of the Roman period Dorset population (Redfern et al. 2010). The individual was aged 58-100 years old at death, placing him into the elderly age bracket stipulated by Roman sources (Harlow and Laurence 2011). He had surpassed the optimal age of around 42 years; at age 46 he was no longer required for military service and at 60 years old is the point where a man might withdraw from public life (Harlow and Laurence 2011). The individual's death was not unexpected at this age, but the manner of it was.

If we consider dis/ability as a continuum, and death as a part of the life of the body, we could explore the idea of a disabled corpse. The identity of this individual changed much upon their death.

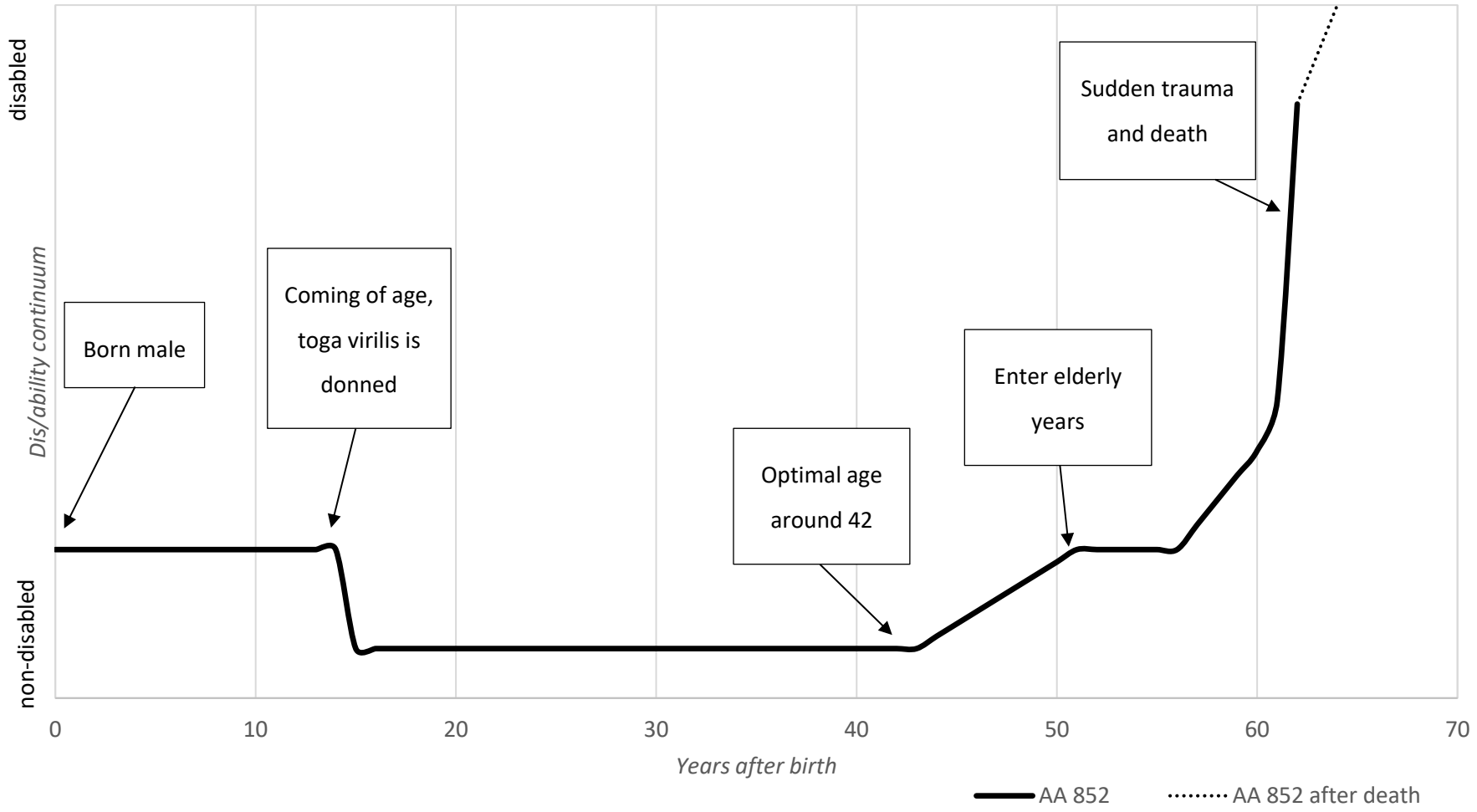

Figure 7.12 – Dis/ability continuum variations over AA852's life time

It is speculated that the individual's atypical burial type reflects AA852's change into something that was feared. At death, the individual's identity is reduced to their impairment. The impairment is highlighted as a key feature within the burial, and the burial itself includes a number of unusual features, such as the burial posture and grave goods. In this way, dis/ability is witnessed. It is interesting to note that, despite this, it was deemed worth the effort both to attempt the surgery and to bury the man. A decision to attempt an amputation would not have been easy. Firstly, it is likely to have been costly, with doctors charging for their services (Israelowich 2015), and the decision to render an individual without an arm is a considerable one. It is thus possible to argue that, at least to some of the contemporary population, a life without an arm, was deemed to be a life worth having.

It is also interesting to note the ramifications for the society had they achieved their goal and the individual had survived surgery. Such surgery often resulted in gangrene or infection (Jackson 1988). Long term care to keep the arm clean whilst healing was necessary. The Romans were clearly aware of such issues as cauteries (which enable the sealing of wounds directly after treatment) were often a part of surgical kits during the period (Arnott 2002). Long term care of the individual would have been required to help them adapt to life without the use of their arm. This would have caused significant change to their normal routines, including their own personal care and work. An attempt to remove the arm surgically at least implies a willingness to provide this support on a societal level, although, of course, this willingness or indeed ability to do so may have changed over time. Future considerations for the individual may also have involved prosthesis provision, but while there are references in literature to arm prostheses being used, there is no evidence in the archaeological record from Roman Britain (Bliquez 1996).

7.2.5 Narrative

The group was troubled - haunted by the sounds of his pain. The once proud man, who had lived through so much, had screamed in agony when the doctor had to take away his precious right arm; a last resort to try to save his life. But, all that anguish had been in vain.[a] How could someone who had died in so much pain, be able to rest peacefully now? It was this question that had so unsettled the community and had bought them here, hoping that after this day, a sense of normality could be restored.

The sombre procession obediently followed the bier[b], bearing the body, across the ancient landscape. They awkwardly picked their way up and down the mounds and ditches built by their ancestors long ago[c], wafting incense[d] and whispering their heartfelt prayers to an array of gods, old and new. Held aloft, the seemingly floating corpse was, at once, horrifying to look at and

impossible to turn away from. Despite the efforts of his wife, dressing him in his best garb and shoes, making him look the best she could, he still looked battered, a shell of the man he had been just days before.[e]

Wooden markers signposted their route, few at first, but steadily growing in number as they neared their destination, marking the graves of others, gone before.[f] *A small dog bounded along carelessly, incongruous amongst the assembly. Tethered on a string held by a solemn slave, the stray animal was oblivious to the significance of the day and its own fate. At the back of the group, was a young figure dressed in the tunic of an unmarried Roman woman, just about keeping up with the slow pace of the procession. Her unusually small stature and legs made the uneven ground particularly challenging.*[g] *Nevertheless she persisted, keen to see how this would end.*

Finally, they reached the spot, in the heart of the village of the dead. The hole had already been dug and the coffin set inside. There had been much debate about how to placate a malevolent spirit after such a violent death. The prayers, location, grave dress, body position and ritual had all been carefully chosen, yet, even then, the speaker was nervous, rattling through the prayers as quickly as he could. The body was gingerly lifted from the stretcher into the ground. No one wanted to touch the stump of the man's right arm, as if the contact would, somehow, still hurt him. As they positioned the body within the hastily bought coffin, it became clear that the man was too tall for it. The legs had to be bent to fit in.[h] *The body was laid face down, to confuse any returning ghost.*[i] *But this was not enough; a sacrifice was needed, to ensure the community's safety. The slave brought the small dog, cradled in his arms, to the graveside and produced a sharp knife that he had carefully concealed within his tunic. The speaker's voice rose to a crescendo and there was a glint of metal as the blade was swiftly drawn across the animal's throat.*[j] *The crimson blood gushed over the slave's robe, soaking him to the skin as he cradled the little creature until it was still. He visibly shook with grief as he lowered the small body to lie at the feet of his new master. Everybody said that this sacrifice would please the gods of the underworld. The dog would guide this soul to its new home and in so doing, protect those left behind.*[k]

The sacrifice signalled the end of the funeral and people slowly withdrew, the young woman again trotting to keep up with the crowd. The close family remained to finally seal the coffin and cover it with earth. They would be back in nine days to revisit the site, to feast and check that all was well.[l] *The people were still troubled, but they had done all they could. What the future held, only the gods knew.*

[a] The narrative fictively reconstructs the burial of skeleton AA852. The palaeopathology of AA852 indicates that the individual encountered trauma shortly before death resulting in the right arm being amputated. The nature of the break in the bone points to the amputation having been deliberate, however it is mostly likely to have been the result of medical intervention rather than putative especially as amputation was rarely used as a punishment in the Roman period.

[b] In the western world today, the corpse, at its funeral, is often transported out of sight, within its coffin. This behavioural pattern has been transferred into the past (Weekes 2016). Transportation of a coffin in this way however tends to be over short distances, with other transport used to do most of the heavy lifting. Coffins can weigh c.200kg which is typically 2-3 times heavier than the enclosed corpse (Booth 2017: 200). In the Roman period, funerary processions were a key part of the mortuary process, so much so that they informed aspects of town planning (Booth 2017; Pearce 2011b). Additionally, Roman burial grounds were placed outside of the urban centre (Pearce 2011b), all of which means that the corpse could need to be transported over some distance (of course without motorised assistance). Particularly, in the context of Alington Avenue, the bumpy terrain would have added another obstacle, making even horse drawn transport difficult. So, despite having no direct evidence of one, the use of a reusable bier to carry the corpse to the burial plot and the separate transportation of the coffin, seems more likely (Booth 2017).

[c] Alington Avenue cemetery was developed on the site of Bronze Age earthworks, which includes evidence of a long barrow and ring ditch (Davies et al. 2002). Later on, a D shaped enclosure was also added (Davies et al. 2002). The burials were dotted around these earthworks. A key tenet of Roman town planning was the establishment of Roman burial grounds outside of the living space (Pearce 2011b). The re-use of prehistoric structures, as seen as Alington Avenue, is not unique (Esmonde-Cleary 2000; Pearce 2011b) and is interpreted as the user community attempting to create relations to perceived ancestors and to each other (Esmonde-Cleary 2000; Pearce 2011b).

[d] The use of incense to disguise the odours associated with decomposition is depicted in several contemporary sculptural reliefs mostly from Rome (Hope 2017).

[e] Firstly, it is alluded here that the death of the individual happened very recently, as funerals in the Roman world generally took place between 2-3 days after death (Horn 2017). Secondly, this sentence says that the wife prepared the body for burial. It has been cited several times that women traditionally had the role of burial preparation (see Graham 2009; 2011; Hope 2007). This assertion may be compounded by the knowledge that there were typically large age gaps between men and women in Roman marriages, resulting in many women being widowed (Harlow and Laurence 2002). There is evidence for professional funeral services in Rome, even professional embalmers, however these services were expensive and therefore not available to everyone (see Hope 2007). The evidence for undertakers in Roman Britain is far less direct, researchers citing for example the lack of intercutting graves in cemeteries as evidence of a managed cemetery (Morris 1992; Philpott 1991). The lack of direct evidence therefore has led to the postulation that the women in the family were likely involved in the preparation of the body in this case. Finally, *anthropologie de terrain* analysis and grave finds have pointed towards individual AA852 being clothed and shod at burial.

[f] There is no direct evidence for burial markers at Alington Avenue (Davies et al. 2002). The lack of stone grave markers, so much more evident in other places, has led to belief that the fashion for grave markers did not reach Roman Britain much at all (Esmonde-Cleary 2000; Hope 2007). Contrastingly Pearce (2011b; 2013) argues that the lack of inter-cutting graves, especially over long periods of use, such as seen at Alington Avenue, points to the use of grave markers made with perishable material (Davies et al. 2002).

[g] This brief description alludes to the presence of AA766, an individual buried at Alington Avenue contemporary with AA852. The skeleton was that of a young adult woman, who lived with langer type mesomelic dwarfism (section 7.1). It is likely that this individual was unmarried as her age of death, which may have been symbolised through dress.

[h] Excavation photography of AA852 suggests that the individual was buried in a coffin that may have been too small for him, as evidenced by the bent legged position of the individual and lack of space.

[i] Atypical burial positions are usually interpreted as a fear response on behalf of the community (Milella et al. 2015; Shay 1985). A prone burial was thought to be able to confuse a returning, malevolent spirit. Several recurring ideas about the causes of necrophobic reactions have been flagged, one of which is a response to violent and sudden death, such as exhibited in the case of AA852 (Hope 2014; Shay 1985; Weekes 2016).

[j] The Roman world was a slave empire and Roman Britain was no exception (Redfern 2018). Slaves tended to have key roles in preparation and process of sacrifice (Osborne 2017; Warrior 2016; Weddle 2013)

[k] The viewpoint presented in this narrative suggests that the connection between dog and the deceased manifested primarily post-mortem. The instances of dog burials with human remains at Alington Avenue has already been described as ritual sacrifices (Philpott 1991; Smith 2006). There is other evidence for the ritual significance of dogs at Roman Dorset (Morris 2011a). The dog can be interpreted as a guide dog for the deceased leading them to the afterlife (Smith 2006). Conversely, or perhaps simultaneously, the dog can also be interpreted as protecting the living from the potential unsettled spirit, another precautionary measure alongside the prone burial position, protecting the living from the dead (Smith 2006).

[l] This re-visit obliquely refers to Cena Novendialis which was a feast that occurred at the grave side, nine days after a funeral (Hope 2007). There is some evidence of this in Roman Britain, though not directly at Alington Avenue (Weekes 2016). The nature of visits post-burial is speculative (Booth 2017).

7.3 Osteobiography of AA210

Sex: male **Age**: much older adult (69-100 years)

Preservation and completeness: Excellent preservation, approx. 95% complete

Grave number: 578

Burial description: Primary, singular interment. Irregular shaped, dimensions - 2.40m long, 1.10m wide and 0.90m deep. Wooden coffin. Position - supine, with the right arm placed over the waist, the left arm by its side and feet together. Head to the north-east, orientation 32° (Davies et al. 2002: 206).

Grave goods: hobnails worn

Pathologies observed: osteoarthritic lesions and Schmorl's nodes in the lower spine, osteoarthritic lesions on the femoral heads, three fractures in the right hand, arm and leg as well as numerous dental pathologies

Stature: 170cm

Specialised analysis: archaeothanatology, dietary isotopes (Redfern et al. 2010).

7.3.1 Description

Skeleton AA210 refers to a well-preserved human skeleton of a biological male from Alington Avenue. Transition ageing estimated the age at death to be over 60 years old, placing them into the much older adult category. The individual is calculated to have been approximately 170cm tall (see appendix C). AA210 exhibits several instances of palaeopathology. There is evidence of osteophytic changes in both femoral heads, thoracic (T) vertebrae 11 and 12, and lumbar (L) vertebra 1. T11 and T12 also exhibit Schmorl's node lesions. AA210 presents evidence of three fractures in the right hand, right arm and right ankle. In the right hand, the second metacarpal demonstrates evidence of a midshaft, oblique fracture, which is united and well healed, although the bone is deformed with the metacarpal head medially angled slightly (figure 7.13 **A**). The arm fracture presents in the distal third of the right ulna and is united, well healed and the bone is remodelled (figure 7.13 **B**). The distal end of the bone is angled medially. There is also evidence of periosteal change near the ulna fracture. Skeleton AA210 also presents with evidence of a midshaft fracture in the right fibula. The fracture is located in the distal quarter of the bone and is united, well healed, with active periosteal remodelling at the time of death (figure 7.13 **C**). The fracture seems to be oblique in nature and is positioned proximal to the articulation with the tibia. AA210 also exhibited severe dental pathology including the antemortem loss of ten teeth and, the two remaining incisors worn down to the root, with no enamel remaining.

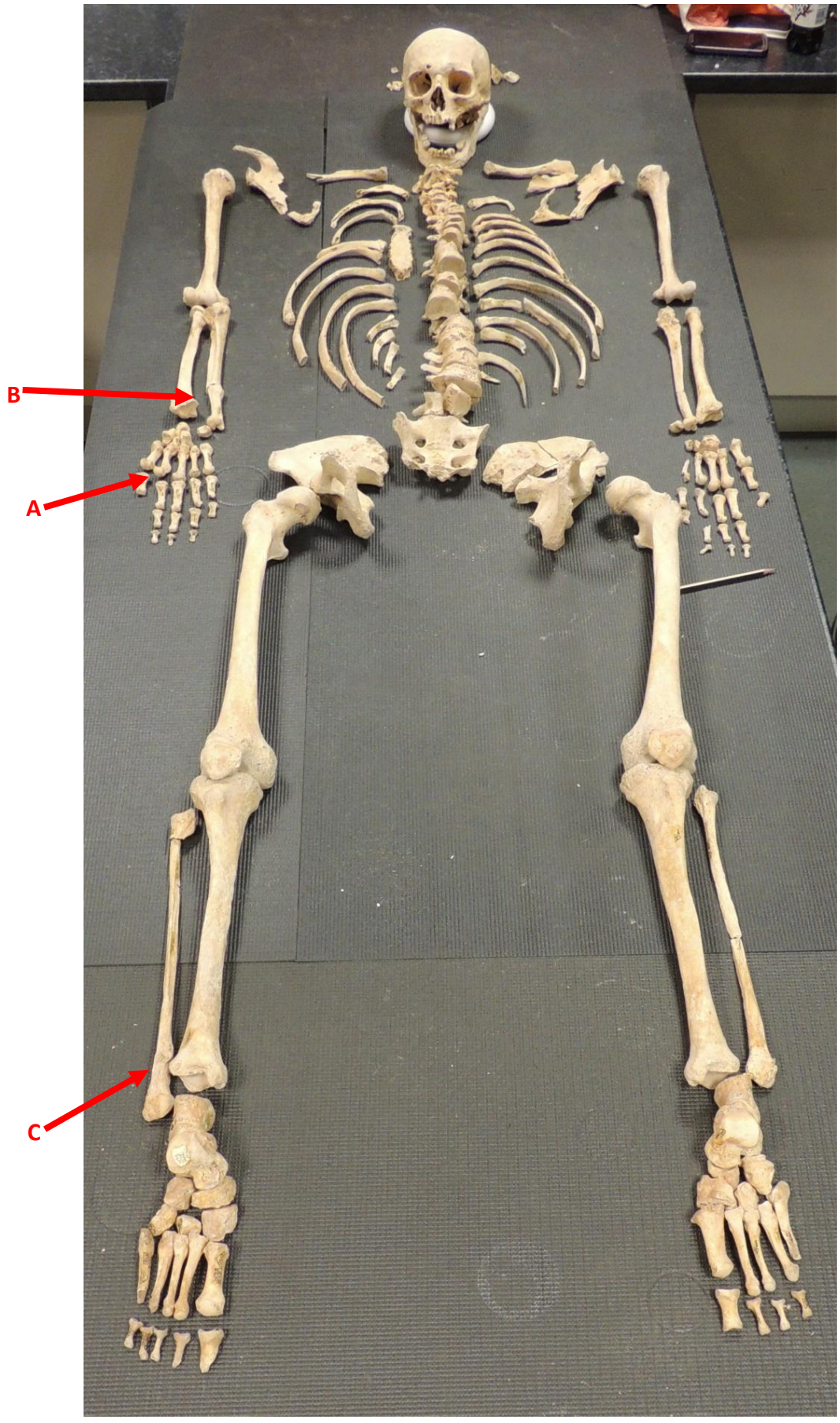

*Figure 7.13 - AA210 laid out to study. Location of metacarpal (**A**), ulna (**B**) and fibula (**C**) fractures are labelled. Source: author's own image.*

Figure 7.14 – AA210 2nd metacarpal fracture. Left – close up of 2nd metacarpal from right hand showing mid-shaft fracture. Right - Complete right hand from AA210 in palmar position. Source: author's own images.

7.3.2 Differential Diagnosis

Diagnosing osteoarthritis within a skeleton is not itself difficult, in fact it is the most ubiquitous pathology found in the human post cranial skeleton (Waldron 2009). The difficulty comes with identifying the consequences of osteoarthritic lesions for they can be profound or asymptomatic, and there seems to be no direct correlation between the frequency or size of lesion and the pain experience (Weiss 2015) (see section 3.5.5). This variability has caused some researchers to avoid talking about osteoarthritis as a factor that affected people in the past; however, if such pathologies impacted anywhere near as many people as they do today, with a tenth of people over 60 years old in modern day USA recorded as disabled by osteoarthritis (Weiss 2015: 89), then osteoarthritis' impact in the past was considerable (Plomp 2017).

A factor that does seem to dictate the impact of osteoarthritic lesions is their location in the body. Osteoarthritis at certain sites is more painful than at others; for example, the thumb base, the medial compartment of the knee and hip noted as especially are painful (Waldron 2012). In the case of AA210 therefore the likelihood of a painful osteoarthritic experience is increased by the bilateral presence of osteoarthritis in both the femoral heads.

Figure 7.15 - Right side ulna bone from AA210 with midshaft fracture. Medial view. Source: author's own image.

Additionally, a study found that back pain was more likely to be reported for cases of Schmorl's nodes when they were present alongside osteophytes such as seen in T11 and T12 in AA210 (Faccia and Williams 2008). In this instance therefore, further discussion of the potential experiences this may have caused is appropriate.

The three fractures evident in skeleton AA210 represent at least two (possibly three) occasions where a traumatic incident occurred resulting in injury. Metacarpal fractures (figure 7.14) are often the result of longitudinal compression impact, such as from boxing (Lovell 1997; Lovell and Grauer 2019). The ulna fracture is often described as a parry fracture, viewed as a defensive wound and, although this designation is often challenged (Judd 2008; Lovell 1997), the designation fits in the case of AA210 according to Judd's (2008: 1661) description (figure 7.15). Both the hand and arm fracture are often associated with interpersonal violence. Both these injuries are well healed and could have feasibly occurred during the same incident. These injuries, in conjunction, further increases the likelihood of a violent aetiology. The fracture in the fibula however seems to have occurred on a separate occasion (figure 7.16). Lateral malleolus fractures in the fibula above the ankle joint line, such as seen in AA210, are often the result of abduction and/or lateral rotations such as a twisted ankle (Lovell and Grauer 2019).

Figure 7.16 - Right side fibula from AA210 with distal shaft fracture. Medial view. Source: author's own image.

Tooth pain is likely to have been a feature of this man's life. Having lost 10 teeth antemortem, with two more worn to the root, AA210 lacked the 9-10 contacting pairs required for minimum functional dentition (Gotfredsen and Walls 2007).

7.3.3 Implications

The discussion above demonstrates that AA210 is likely to have experienced some symptoms from his osteoarthritic pathology and Schmorl's nodes. The range of symptoms relating to osteoarthritis is wide including: pain, tenderness, stiffness, limitation of movement, crepitus, swelling, bony enlargement, joint instability and occasionally effusion (Jurmain 1999; Weiss 2015). An issue with applying data obtained from clinical literature to osteoarchaeological assemblages is that the patient sample is skewed towards people whose experiences were unpleasant enough to cause them to get medical support and thus participate in the study; therefore, a degree of conservatism is needed. Yet, it would seem appropriate to assume that the most common symptoms experienced are applicable to this case study. So, it seems likely that AA210 experienced pain and activity limitation related to the Schmorl's nodes, as 92% of Faccia and Williams' (2008) study participants experienced activity limitation, and all of them had reported moderate to severe pain, either frequently or constantly. It is also noteworthy that some of the study participants described the actions they took in response to their Schmorl's nodes, which included taking prescription pain killers and applying heat (Faccia and Williams 2008: 39). Such treatments were well within the Roman medical repertoire, and so could have been actions that AA210 might have taken.

Metacarpal fractures can be associated with symptoms like pain, swelling, bruising, limitation of movement and deformity. Deformity can be in the form of knuckle asymmetry, a knuckle appearing to be missing, finger misalignment and pseudo-claw deformity (DelCore 2015). The right side, second metacarpal in AA210 shows an example of deformity, likely in the form of finger misalignment. Bony remodelling of the metacarpal takes six to eight weeks, but it can take years for it to return to full strength (DelCore 2015; Hardy 2004).

Ulna fractures often results in angulation and a large callus (Judd 2008), as is evident in AA210. Such fractures often present with forearm swelling, pain and obvious deformity (Judd 2008). Today such fractures are usually treated with splints and braced for four to six weeks. Full healing can take up to 12 weeks (Dymond 1984). Complications resulting from such an injury often involve nerve injury and infection (Wheeless 2015). The latter of these is evident through the

periosteal changes manifest in the area of the injury, which is a complication that can slow healing rate (Lovell and Grauer 2019).

The difficulties related to an ankle fracture injury can include: inability to walk or load the ankle, pain, swelling, bruising, insensibility in the ankle and difference in appearance (Crist 2013). Most of the time, injuries to the fibula are not seen as particularly challenging as they tend to unite fairly easily (Lovell and Grauer 2019), but such injuries can damage surrounding ligaments (i.e. the deltoid and the anterior and posterior tibiofibular ligaments) and, possibly, nervous and musculoskeletal tissue around the ankle (Lovell and Grauer 2019). This can result in impaired balance capacity, reduced joint position sense, slowed nerve conduction velocity, impaired sensation and decreased dorsal extension range of motion. For an ankle break to heal, it can take between four to eight weeks of immobilisation, and several months before the full range of motion is regained (Cunha 2019). The healing of the ankle is complicated by the presence of infection, indicated clearly by the periosteal bone changes and the new bone growth; this would have caused quite visible swelling within the ankle.

Fractures are fairly commonplace in the osteoarchaeological record, and the process of manipulation, extension, reduction and splinting of fractures described in medical texts from the period matches well with modern practice, and when employed, could have resulted in good bone union (Jackson 1988). The fractures in AA210 are fairly well united with some deformity so splinting etc. may well have been used on AA210.

AA210's lack of a minimum functional dentition could have impacted the individual's ability to perform complete oral function, including masticatory function and speech (Gottfredsen and Walls 2007). Tooth pain was likely a persistent experience for AA210. Celsus considered pain in the teeth as one of the greatest torments and thus prescribed the most powerful painkillers for the relief of tooth ache (Jackson 1988: 121). Analgesics like henbane, chamomile and poppy seeds have all been found to be available in Roman Britain (Jackson 1988; Redfern 2010). The aesthetics of bad teeth was also commented upon by Ovid who said – "*If you have a tooth that is black or too large or growing out of place, laughing will cost you dear*." (Ovid, *Ars Amatoria*, 279) – implying that people with bad should not laugh and display them (Jackson 1988). Examples of Etruscan and Italic cosmetic false teeth have also been found (Turfa and Becker 2019) but we have no evidence of such remedies having been used in Britain.

The cause of death of AA210 is not evident from the skeletal remains. The burial of skeleton AA210 is a simplistic form. Skeleton AA210 was found in grave numbered 578 which was located as part of a central grouping that fits around a central feature in the landscape (figure 7.17). *Anthropologie de terrain* techniques also offers insight (figure 7.18).

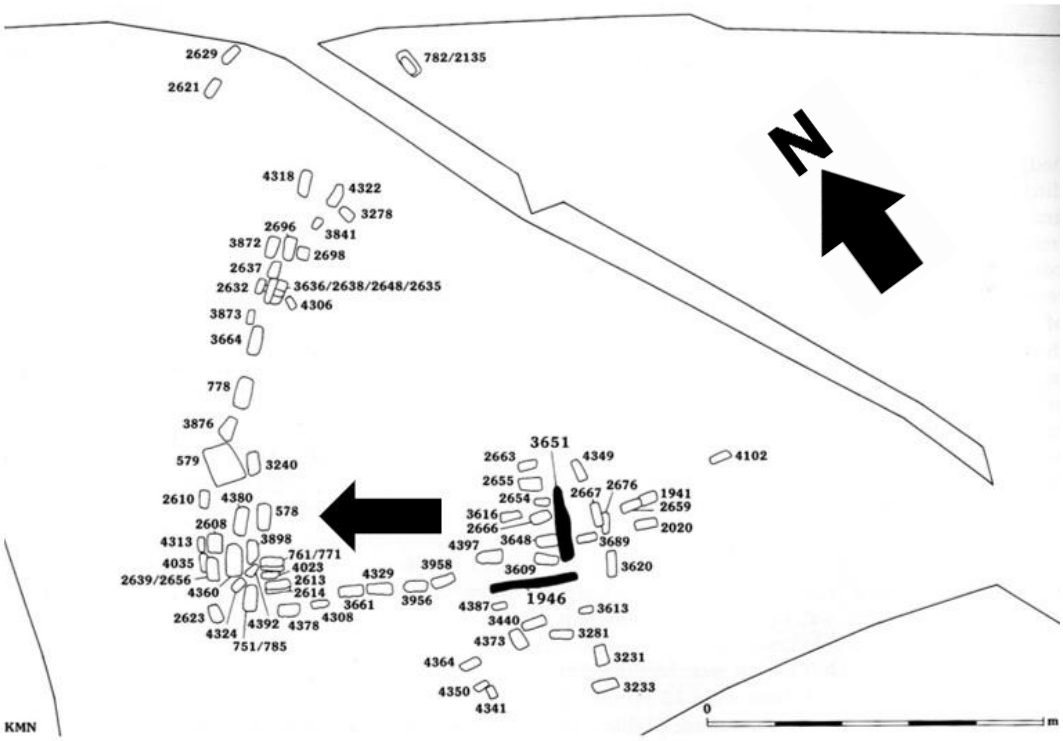

Figure 7.17 - Close up of Alington Avenue burial map with AA210's grave highlighted. Source: Dorset Natural History and Archaeological Society and Wessex Archaeology. Illustrator – Karen Nichols (Davies et al. 2002: 130)

The primary interment of grave context 578 is confirmed by the labile joints of both hands having maintained anatomical position. The presence of nails in the corners of the grave point towards the individual having been buried in a coffin. The body is well articulated, the bones in the area of the thorax having fallen inwards, which suggests that material restricted the bones falling outwards, instead they filled the space that became available as the chest decomposed. An '*effet de parois*' is also evident in the right side humerus and pelvic girdle, as in the bones were held in an unstable position due to an obstacle such as the coffin edge or wrappings. The verticalization of the right clavicle infers previous presence of wrappings, either a shroud or clothing. The only grave good reported in this context are hobnails which surrounded the feet, suggesting that the corpse was placed in the grave wearing shoes. The individual was therefore buried in a primary interment, supine, in a wooden coffin, clothed and shod. AA210 is therefore counted in the 57% of the Alington Avenue sample to be facilitated with all the standard provisions noted for this cemetery (see section 6.7).

Figure 7.18 - AA210 in situ. Source: Dorset County Museum.

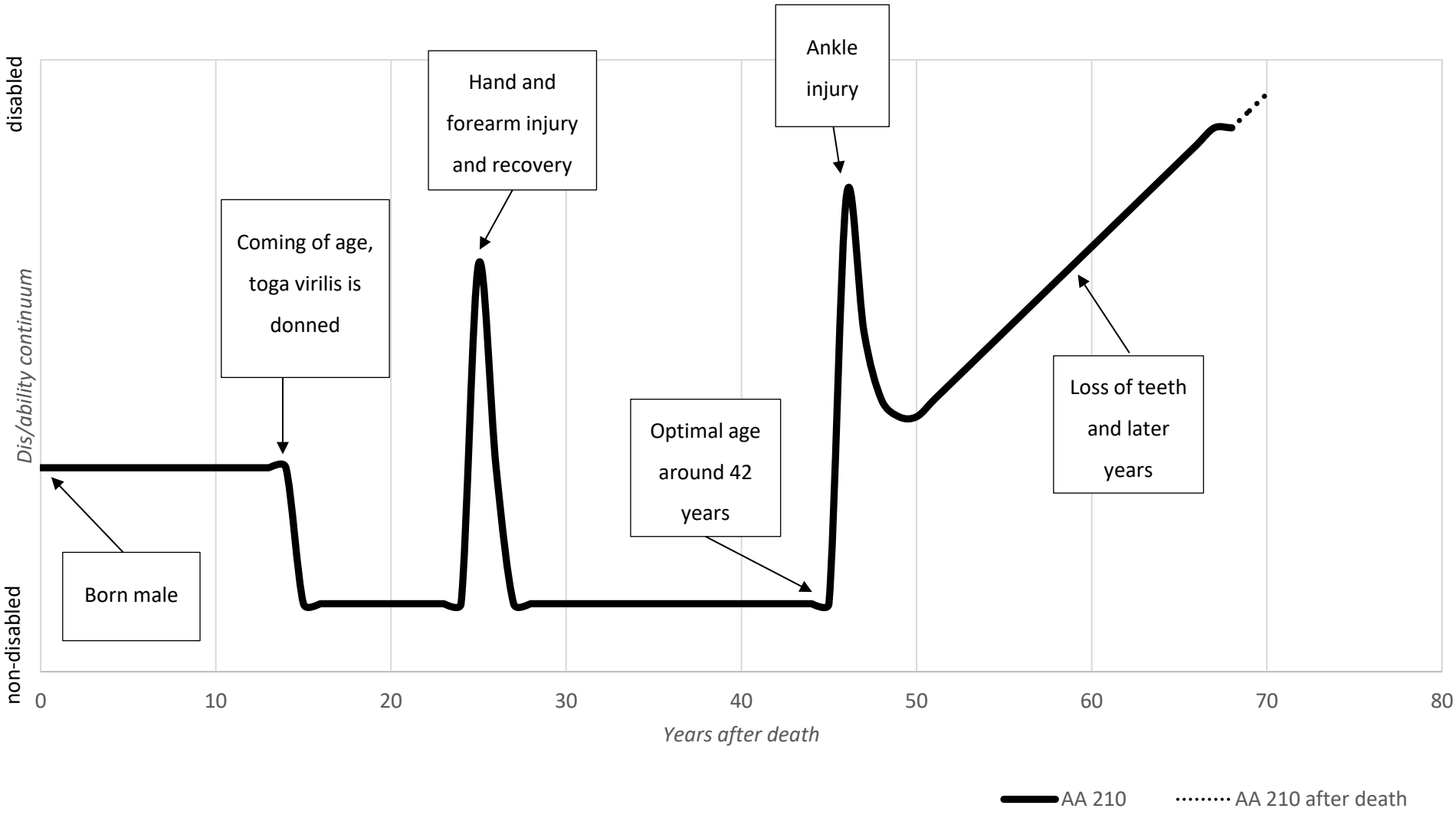

Figure 7.19 - Line sketch of the dis/ability continuum over AA210's lifetime.

7.3.4 Discussion

Skeleton AA210 offers insight into an active and relatively long life, and in many ways an unexceptional one. For example, AA210's diet, according to isotopic analysis, shows an unexceptional signature in cluster 'G1', which means that his diet, similar to several others in the sample, lacked a marine resource component (see figure 6.5). Over 49% of the sample studied (18/37) had some incidence of back pathology and 14% of the sample exhibited at least one trauma related lesion (5/37) (see figure 6.6). Ankle fractures are the most common type of fracture treated by orthopaedic surgeons in the USA (Michelson 1995). Perhaps the most telling part of this individual's palaeopathology was the several fractures evident in the skeleton. It is argued that these point to at least two, if not three, different incidents of trauma.

It is possible that the metacarpal and ulna fractures happened in the same incident, as both types of fracture are frequent results of interpersonal violence and, exhibit similar levels of healing. Such lesions in modern medicine are expected to take up to two months to heal. In the case of AA210, this time may have been longer, due to the infection which is evident in two of the fractures. Of course, in the past, people were not necessarily aware of these modern insights into the healing processes, so it cannot be assumed that the individual complied with modern instructions to rest and allow time for rehabilitation, or even that this would have been an option for the individual. However, we can perceive, through these injuries, changes in his life experience during this period. These injuries and their healing times would represent a different experience of a person's body, a different position on the continuum of dis/ability for this individual (see figure 7.18). Certainly, during the immediate post-fracture periods, the individual would have had limited activity and may well have required support.

The skeleton of AA210 offers insight into a body that was changing throughout a lifetime, particularly with age. Without the individual's dis/ability continuum altered with changing expectations and the changing nature of the body. The individual's estimated age places AA210 him into the elderly age bracket stipulated by Roman sources (Harlow and Laurence 2011). He had surpassed the optimal age of around 42 years; at age 46 he was no longer required for military service and at 60 years old is the point where a man might withdraw from public life (Harlow and Laurence 2011). Alongside these social ageing milestones, the body change physiologically, for example muscle mass and quality reduces from the age of 40 onwards (Appleby 2017). Although ageing itself is not intrinsically pathological, age increases the likelihood of an individual being affected by a whole range of pathological processes (Appleby 2010). As mentioned in section 5.1.6, non-literate societies rarely use chronological age to determine age identity, instead these

societies use visible signs of ageing to assign an age identity (Appleby 2010).These signals can include changing hair colour, wrinkling skin, stooping posture and slower gait (Appleby 2010; 2017). The skeleton of AA210 attests to some physiological changes that are perceived as age related. For example, AA210's healing ankle fracture osteoarthritic lesions could contribute to a change in gait that was perceived of as that of an older person. Tooth loss has been often associated with old age in modern and past cultures (Appleby 2017). Losing teeth seems to feature as a relatively typical part of the life course at Alington Avenue, especially for people in the older age groups. AA210 has lost more than the usual number of teeth (see section 6.5), which could easily have affected their ability to eat and speak in their later years, again potentially meaning that AA210 also sounded like and ate like an older person. The topic of older age is explored further and discussed in relation to dis/ability in section 8.3.

7.3.5 Narrative

"I wish they would slow down a bit", he thought, as he struggled to keep sight of the bier carried ahead.[A] His ankle was swollen and hurting him, making him limp like an old man.[B] He looked down at his body with frustration, his ankle had proved a persistent aggravation since his fall, months and months ago. "Why wasn't it healing?" he thought. He remembered when he had broken bones in his arm and hand in a fight.[C] The army doctor had patched him up well, leaving little more than a wonky knuckle on his right hand to tell the tale.[D] He cracked his knuckle, in that way that set his wife's teeth on edge and grinned at the remembrance of the reckless encounter and that punch; "you should see the other guy" he thought to himself. He had been young, strong and fearless then, but now … His ankle twinged, snatching back his attention. It particularly aggravated him at times like this. He was walking on the damp grass, across the mounds of the cemetery ground, following the trail he had followed so many times before.[E] The procession moved on around him, leaving him in its wake, seemingly oblivious to the man struggling within their midst. He felt bitter resentment, but he was also too proud to ask for help.

He soon found himself at the rear of the group. There he saw the young, short girl, also trying to keep up with the pace. He stared at her. She was as short as a child, but she was dressed in the unmistakeable garb of an unmarried Roman woman.[F] Her arms were so peculiar, that bracelet she wore looked like it rested half way up her arm, rather than at her wrist.[G] He remembered when the girl had been born, "Had it really been that long ago?" he thought. The birth of a baby with misshapen arms and legs had caused a stir in the community. His wife had clutched her amulet and muttered about evil portents and exposure[H], not that anyone could have prised that infant from the mother's grasp. We had thought that maybe the girl would just grow out of it,[I] but if anything, she now looked even stranger. He caught her eye and she smiled at him pityingly. His

feeling of resentment doubled, "How could he be pitied by someone like her?" he thought. He had been on so many processions like this before that it was almost a routine now. The same route was followed, so he was able to avoid the lumps and bumps of the uneven ground without thinking about it. The smells of the incense, the sounds of the nenia[J] all belonged here in this place; one of the few spaces in his world that remained mostly unchanged since his childhood. Only the markers had gradually increased in number,[K] he having buried family, friends and acquaintances, more than he could recall. Not that the circumstances of this burial were routine, anything but. He shuddered slightly, stared once more at the young woman and quickened his steps. No matter how much his ankle throbbed, he did not belong back here with her.

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He looked down at the man in the coffin. He looked old, but he was about his age.[L] He supposed he was an old man too now. He was certainly walking like one and he even sounded like one when he spoke, lisping and slurring through a mouth that lost many, many teeth.[M] He remembered he used to tease old men who sounded like him when he had been young; "Are you drunk?" he had said to one esteemed elder, smirking as the man sucked his lips over his toothless gums and reddened. He flicked his tongue around his own mouth and landed on a painful spot of yet another tooth going bad, making himself wince. The man in the coffin had good teeth though, "How had he done that?" he thought, "Some people are so lucky".[N] He shook his head at that thought when his eyes glanced over the absent right arm.[O] He clicked his knuckle again and questioned the logic of performing an amputation. Had he lived, he would have been humiliated, left with one hand and the sinister hand at that, and he would have needed caring for. That is not how men should live.[P] Not that this mattered now. He looked down again into the coffin in the ground. The ceremony was over. The incense had almost completely dissipated. He watched as relatives placed the body carefully into place. Face down, so that the ghost could not come back, but with a little dog curled up at his feet, one paw laid protectively over his ankle.[Q] Our hopes rested on this small animal. They hoped that the dog's natural homing instincts would lead them both to where they needed to go, the dog back to its master, the gods of the below.[R] His ankle twinged again. He looked up across the horizon and groaned to himself, it was a long walk back and he was going to ache tomorrow. "Maybe next time I visit here, I will be being carried", he thought to himself ruefully, "but not yet, not yet".

[A] It is suggested that the corpse was transported to the grave side on a bier, rather than in a coffin, as coffins can be heavy (Booth 2017: 200). The lid was probably placed on the coffin in the ground, to allow the placement of loose objects in the burial before closing (Booth 2017).

[B] AA210's skeleton shows a fracture in the distal right-side fibula. The bone is healing and there are periosteal changes that appear active at time of death. Swelling and pain are common side effects of such a fracture.

[C] AA210's skeleton shows well healed fractures in the right side 2nd metacarpal midshaft and right side distal ulna. The ulna fracture is often described as a parry fracture (Judd 2008; Lovell 1997). The metacarpal fracture is also often seen in boxing injuries (Lovell 1997). These two injuries in conjunction seems to point towards an episode of interpersonal violence.

[D] It is left to the imagination of the reader about whether the individual had a military background. Army doctors are likely to have offered medical care to local populations as well as soldiers (Israelowich 2015). They were well versed in fracture settings and AA210's fractures are well served (Jackson 1988).

[E] Alington Avenue cemetery was developed on the site of Bronze Age earthworks, which includes evidence of a long barrow, ring ditch and D-shaped enclosure (Davies et al. 2002). These would have made the ground of the site noticeably uneven.

[F] AA766 is hypothesised to have been unmarried at the time of her death as she would have been a particularly young bride for Romano-British standards, this may have been symbolised through dress (Allason-Jones 2005).

[G] AA766's skeleton exhibits palaeopathology which has been diagnosed as Langer type, mesomelic dwarfism. The comment about the bangle on the wrist comes after seeing a photograph of one of Langer's patients showing an individual with the condition wearing a watch (1967).

[H] Exposure and infanticide of infants with physical impairments was a phenomenon of the Roman world, but it is uncertain to what extent it occurred (Southwell-Wright 2013; 2014). Exposure features, for example, in the founding myth of Rome, so would seem to have some notoriety. People with dwarfism were believed to have apotropaic ability to ward off the evil eye, and it has been speculated that this was due to themselves being perceived as evil (Garland 2010).

[I] Latour (2000) highlighted that impairments may not have been understood the same way as we do. For example, they may not have known that dwarfism is not an impairment someone can 'grow out of'.

[J] The incense and *nenia* refer to known elements of a Roman burial process. The *nenia* was a soothing lament, thought to encourage spirits to leave the world (Hope 2017).

[K] There is no direct evidence for burial markers at Alington Avenue (Davies et al. 2002). Yet, the lack of inter-cutting graves, especially over long periods of use, such as seen at Alington Avenue, points to the use of grave markers made with perishable material (Pearce 2013).

[L] AA 210 and AA 852 have been grouped within the same age bracket (60+ years)

[M] AA210 had lost 10 teeth antemortem and of the remaining dentition, two incisors are worn down to the root, with no enamel remaining. This means he lacked the minimum functional dentition, which affected his masticatory function and speech (Appleby 2017; Gotfredsen and Walls 2007).

[N] AA 852 did have good dentition compared to others in his age group at Alington Avenue.

[O] Skeleton AA852 shows signs of having encountered trauma shortly before death which resulted in the need for a right arm amputation which the individual did not survive.

[P] To be the recipient of care has been described as a challenge to a Roman man's masculinity (Flemming 2000). Left-handedness has been described as a social disability (Humer 2012), which this individual would have been had he lived.

[Q] A prone burial was thought to be able to confuse a returning, malevolent spirit, which was thought to be a particular hazard in the event of a violent or sudden death, as in the case of AA852 (Hope 2014; Shay 1985; Weekes 2016).

[R] The viewpoint presented in this narrative suggests that the connection between dog and the deceased manifested primarily post mortem. Ferris (2018) argues that dogs present signifiers of an understanding of an afterlife in the Roman period. During this period there were mythological link between dogs and the underworld, not just in the form of Cerberus, the guard god of the underworld in Greek and Roman mythology, but also in Germanic, Nordic, Celtic and Etruscan religions (Egmond 1995; Ferris 2018; Mazzorin and Minniti 2006; Smith 2006; Toynbee 1973).

Chapter 8 Discussion

This chapter discusses and offers answers to three of the four research questions outlined in the introduction and, in the process, addresses three other key areas of consideration that have come to the fore whilst producing the osteobiographies in chapter seven. In each section, I use one particularly compelling case study from Alington Avenue to illustrate the implications of my findings for my research questions. The research questions addressed here are:

- How did a person's dis/ability identity affect their experience in everyday life in 3rd-4th century AD Dorset?
- How far does the mortuary rite reflect the day-to-day experience of an individual with an impairment?
- Is 'dis/ability' an appropriate term to use when discussing impairment and society in Roman discourse?

Answering the fourth research question, which involves evaluating the approach used in the thesis as a whole, will be the focus of the next chapter. Alongside these overarching questions, this chapter also discusses and analyses whether femaleness can or should be considered as a dis/ability; the connection between dis/ability and masculinity; and the relationship between dis/ability and older age. Through discussion of these issues, the chapter offers nuanced, theoretically informed and plausible answers to the three research questions outlined above.

8.1 How did a person's dis/ability identity affect their experience in everyday life in 3rd-4th century AD Dorset?

A key aim of this project, from the outset, was to explore the impact of dis/ability on a person's everyday life. This research question has come about as a response to previous research that has utilised the mortuary context to explore disability identity. Anthropological research tells us that death triggers very particular cultural rituals, which brings into question the logic of using mortuary evidence to explore everyday experience (Hendry 2016). The intention behind this research question is, therefore, to compare insights from everyday life with dis/ability to those conclusions drawn from the mortuary context; ultimately exploring how far, or not, mortuary contexts represented the everyday.

Isotopic analysis of diet provides a suitable approach as isotopic signatures represent a regular consumption behaviour (Brown and Brown 2011; Hastorf 2016; Twiss 2012). As people did not have to directly hunt and gather their own food in Roman Britain, access to a varied diet is

dictated by other sociological factors such as financial restrictions (Stein-Hölkeskamp 2015; Twiss 2012). In 2017, the households of people with disabilities generally have been shown to be more financially challenged than their non-disabled equivalents (Eurostat 2020). It is plausible that such financial difficulties have an ancient precedent. Section 6.3 summarises the isotopic diet data available from Alington Avenue. It is interesting to note that AA766 and AA210, two individuals whose skeletons show palaeopathology manifested during their lifetimes, are clustered together in the group showing less marine component to the diet, whereas AA852, an individual whose impairment was not obtained until right at the end of life, had a more marine rich diet. This initial finding could support the hypothesis that increased palaeopathology, and subsequent dis/ability, resulted in restricted access to varied diets, especially as the grouping does not seem to be dictated by age or gender related factors. More research however would be needed to explore this theme further, as only ten individuals from the 3rd-4th century AD period at Alington Avenue were isotopically studied. This is not a large enough sample to postulate a correlation.

The term 'everyday life' within the above research question is broad and ambiguous. Inspired by the work of Lorna Tilley (2015a), the aim of the research was to see how an impairment would impact a person's ability to participate in day-to-day occupations and activities involved in society life. Tilley (2015a) explored how impairments evident in the skeletal record would have impacted participation in activities required within hunter-gatherer societies. Applying this approach to the context of Roman Dorset proved challenging, especially when it came to reconstructing the everyday life of any one person. Tilley's (2015a) description of prehistoric, hunter-gatherer living features little in the way of individual variation, with activity being focused on day-to-day survival. Evidence from Roman Britain, however, shows that most people did not have to directly procure their own food in order to survive, allowing people to specialise in other trades and industries (Mattingly 2007). This means that everyday life could present very different realities to different people. The existence of varied occupations, in theory, offers a clear advantage to people with disabilities and the non-disabled alike; if one occupation does not suit their abilities, others are possible. The accessibility of alternative professions to people may have been restricted. Emperor Diocletian made some professions, like armourers and bread makers, mandatorily hereditary (Lim 2006). Diocletian's reign (284-305AD) coincides with the middle of the period under study at Alington Avenue (Lim 2006). Discussing the impact of Diocletian's edicts on the populations of Roman Dorset is highly speculative. It is highly questionable that there was sufficient bureaucracy in place to enforce such rules in the context of the Empire's most distant province. The existence of the edict does however point to the existence of hereditary occupations and alludes to the process of professions being passed on from generation to generation. It is easy to see how hereditary occupations could cause problems for someone with disabilities. They might find themselves expected to pursue an inherited occupation which, due to their impairment, was sub-

optimal, and which, at the very least, could cause additional complications and distress for themselves and their families.

Determining what would have constituted daily life activities for the people buried at Alington Avenue is unfortunately near impossible. Dorset was known for its Purbeck marble, Kimmeridge shale and black burnished ware industries (Mattingly 2007) so it can be postulated that these were big employers in the region. Hypothesising an individual's occupation exclusively from skeletal traces is almost always impossible to scientifically validate (a rare exception potentially being the Archers from the Mary Rose) (Waldron 2009). Additionally, mortuary provision at Alington Avenue presents no indication of the burial occupants' professions as there were no tools of trade included in the grave goods (Davies et al. 2002). Another complicating factor is that researchers disagree as to whether Alington Avenue served a rural or urban population (Davies et al. 2002; Redfern 2008). The differences between urban and country life in Roman Britain were quite pronounced, affecting the lived-in environment and impacting on the population's health, demography and mortality (Mattingly 2007; McCarthy 2013; Redfern et al. 2015). Ray Laurence's (2017) exploration of the effects of Pompeiian urban architecture on child interaction has proven particularly influential when discussing AA766's experiences as a person of short stature. Some of the findings can be extrapolated from a Pompeiian to the Dorchester setting as they share some architectural characteristics (Mattingly 2007). Unfortunately, we cannot know whether AA766 lived in that setting permanently or visited occasionally, such as for market days, making it near impossible to extrapolate the nature of her interaction in that setting. A small glimmer of hope is offered by Peacock's (1982) assertion that the black burnished ware industry, which was well established in Roman Dorset, was female dominated, perhaps offering a guess as to AA766's possible occupation, although this is still at best speculation. Without further evidence as to individual's specific trades and lived environments, the sheer variety of options available, makes speculation as to the impact of impairment in certain industries or environments a futile exercise.

It became apparent that exploring the day-to-day activities of people with impairments was not straightforward and, arguably, was a flawed line of enquiry. Tom Shakespeare (1999: 100) argues that when archaeologically studying disability in the past, '*a considerable degree of imagination is both required and to be avoided*'. When imagining the lives of people with disabilities, there is a tendency to exaggerate and project negatively about what life is like for them, rendering the individual a passive victim in a miserable existence (Shakespeare 2014). It has also become apparent that people with impairments have potential to adapt beyond what can be feasibly imagined; for example Magdalena Rudolfs Thuinbuj, born circa 1612, demonstrated the ability to perform intricate tasks, such as firing a pistol, unlocking a chest and threading a needle, without arms (Telfer et al. 2011), and John Metcalf, a surveyor and builder of 180 miles of turnpike road

between 1765-1792, was blind from the age of six (Hallas 2004). People's disabilities are not necessarily the result of their physical inability, but other non-disabled people's beliefs about their abilities, and thus the opportunities made available to them. The argument at the heart of the social model of disability.

The focus in relation to this research question therefore shifted to an exploration of how a person's difference, as it developed in their lifetime could impact their perceived identity at crucial rites of passage over the life course. First theorised by Arnold van Gennep (1960), rites of passage are 'rites that celebrate and protect the move of an individual or a social group from one "class" or social category to another.' (Hendry 2016: 82). Rites of passage mark changes in people's status and situation and are often key milestones in people's lives, that mark transitions between stages of the life course, such as birth, marriage etc. (Hendry 2016). Rites of passage can be related to chronological or physiological age and linked to changes in an individual's body, for example coming of age rites tend to coincide with puberty (Hendry 2016). Rites of passage can act as technologies of transformation, altering aspects of an individual's personhood and with that changing their socially sanctioned roles, responsibilities and behaviour (Garwood 2011). Van Gennep (1960) theorised that rites of passage had three stages: rites of separation (preliminary stage), rites of transition (liminal stage) and rites of incorporation (post liminal or reaggregation stage) (Garwood 2011; Hendry 2016). Social change can represent periods of uncertainty and threat to communities. For example, death is the most studied example of a rite of passage in archaeology, as it has left the largest imprint on the archaeological record (Garwood 2011). Funerary rites mark the deceased's transition from the world of the living to that of the dead, and the community's transformation to entity without the dead person. The liminal stages of funerary rites have been noted in anthropology to be associated with notions of pollution and is often associated with behaviours that would be social unacceptable at other times, for example Roman mourners were expected not to wash and so were literally polluted by their liminal status (Hendry 2016; Hope 2017a; b).

Missing out on rites of passage can prove detrimental. For example, Green and Bennett (2020) argue that school leavers during the COVID-19 pandemic will miss out on rites of passage marking their transition to adulthood, which will impact their self-perception as adults and sense of belonging in their new social role. In a Roman example, the conception of a child out of wedlock, as in without the rite of passage of marriage having been performed, could have severe implications for the baby, a child born outside marriage was legally considered 'fatherless' and thus unprotected (Evans Grubbs 2015). Sometimes missed rites of passage necessitate individuals to follow new life trajectories and alternative life courses (Robb 2002), for example 'taking the veil' and entering religious life as a nun can be seen as an alternative to marriage (Rives 2005).

Indeed, the designation of nuns as 'Brides of Christ' permanently places them in a liminal position as a bride and never a wife. Disabling attitudes to impairments can cause disruption to people's attainment of rites of passage and subsequent life course, causing issues for the individual with impairments relating to liminality (Willett and Deegan 2001). An example from the Roman world can be seen in Suetonius' description of Emperor Claudius' donning of the *toga virilis*, the male Roman's coming-of-age rite of passage. Suetonius (*Lives of the Caesars Book 5*. 2.2) reports that Claudius' family were concerned that his impairment would cause embarrassment at the ceremony and so the occasion was celebrated secretly (Harrill 2002). Additionally, in spite of the convention that the *toga virilis* coming-of-age ceremony results in freedom from guardianship for the individual, Claudius remained under the protection of his pedagogue, like a child. Emperor Claudius was therefore kept in a liminal state, between boyhood and manhood, affecting his freedoms and agency, something he was reported to resent.

Although not all stages of the life course are marked by momentous rites of passage, with changes particularly in later life being far more gradual (Appleby 2010). Reconstructions of the gendered Roman life course and rites of passage formed a fundamental part of the underpinning structure of the dis/ability continuums estimated for the population of Alington Avenue. Therefore, work reconstructing the Roman life course and rites of passage proved crucial sources, in particularly Ray Laurence and Mary Harlow's work (2002; 2007) but see also Allason-Jones (2005); Dasen (2009); Bremmer (2016); McGovern (2019); Parkin (2011); Tiersma (1988). The graphs depicting the dis/ability continuums show a very different experience between individuals related to gender based on the differing perspectives of male and female life courses discussed in the studies listed above. This could, however, be argued to be an example of an apparatus used in an experiment dictating the nature of the outcome (Barad 2007). Marshall (2008) warns that if you look for gender related structures, you are likely to find them, but this may not be the most representative or appropriate lens through which to view the society. The selection of a gender structured viewpoint requires careful, critical consideration. Harlow and Laurence (2002) amongst others seem to point to the validity of such an approach, at least in context of the central Roman Mediterranean (c.f. Parkin 2011; Revell 2005). Replication of some these gendered structures have also been found in Roman Britain (Moore 2009b; Sherratt and Moore 2016). For example, women in Ancient Rome tended to marry men older than themselves (Harlow and Laurence 2002). Epigraphic evidence from Roman Britain also shows women marrying older men – women were married in their early to middle twenties, whilst men often waited until their forties (Allason-Jones 2005). The evidence of different life experiences based on gender in both theory and practice, shows that gender is a valid lens for understanding this period and its people, and a crucial perspective through which to understand dis/ability experience.

This is borne out by my own research. Throughout the process of constructing AA766's osteobiography, her femaleness seems to have had a larger impact on her life course than her impairment (Langer type mesomelic dwarfism) and therefore her femininity seems to have been more disabling than her impairment. The question of whether being female could be considered as a form of disability in the Roman past, which was briefly explored in chapter 2.2.1, re-emerged as a topic of interest because the estimated dis/ability continuums of the people from Alington Avenue were substantially different between the genders. Being female was an unchangeable attribute of a person's body which as a result of society's reaction to it, excluded individuals from certain activities and roles. Dis/ability identity was therefore arguably restricted in its potential to impact the actions of a life already hampered by gender roles.

Skeleton AA766 offers a unique perspective within the context of the Alington Avenue cemetery as the only skeleton that has evidence of a congenital impairment and thus lived with an impairment from birth. For AA766, her impairment and sex were never experienced separately, but rather were two realities of the same lived body. Separating out dis/ability and gender experience therefore does not offer the most realistic perspective of AA766's life experience. Barad's (2007; 2014) concept of 'entanglement' can be applied to help visualise how the different identity traits co-existed in the case of AA766. Entanglement describes how interactions between distinct, individual actors (being either human or non-human) affects the trajectory of all participants to some extent. In this instance, gender and dis/ability identity traits are the individual actors, with their own distinctive characteristics, which nevertheless have never existed in isolation from one another; they were consistently intra-acting with each other, mutually affecting each other, creating experiences that are incomprehensible without consideration of both. Sometimes the identity traits interacted harmoniously, sometimes they were at odds and it is the latter scenario that is more likely to be noticed and cause issues. For AA766, the expectations of a woman, such as being a wife and a mother, could have conflicted with the expectations of someone with an impairment, particularly dwarfism which may have led to her being perceived as child-like and therefore an unsuitable mother (Dasen 2007). Whether an individual wants to conform to social expectations or not, the existence of two such opposing societal pressures means that their position and role in society is unclear, potentially causing considerable distress to the individual and those close to them.

The concept of entanglement becomes especially fitting when one considers that, on top of the complex interaction between gender and dis/ability identity traits, these attributes are simultaneously interacting with other elements, which are also developing independently and interacting. For example, the tension described above between the differing expectations of a mother and a person with a disability is also affected by age identity, as it affects an individual

who is of marital age. AA766, aged 18-20 years, died on the cusp of marital age; the youngest known bride in Roman Britain having been 19 years old (Allason Jones 2005). Death at this stage meant she was unlikely to have been married, though marriage would be part of a woman's likely expected future. Any concerns therefore that AA766's impairment would impact her marriageability were likely to have come to the fore around this time, and these imagined concerns have a precedent; in some Roman eyes dwarfism was an ugly condition which was used to illicit laughter (Trentin 2015), and ugliness was seen as a barrier to marriage, particularly for women (Garland 2010; Gevaert 2012).

Garland-Thomsen (2011) building on Karen Barad's (2007) theory of entanglement, describes individuals whose social expectations are confused, such as a female with an impairment, as a 'misfit'. This is a fitting description of an individual whose clashing dis/ability and gender related traits render them unable to meet the ideal of part of their identity. For example, a woman with an impairment cannot both be and not be a mother. Either way they fail to conform to the ideal of part of their identity. '*The problem with a misfit, then, inheres not in either of the two things rather in their juxtaposition, the awkward attempt to fit them together*' (Garland-Thomsen 2011: 593). Mis-fitting is thus an appropriate term to describe the predicament women with disabilities like AA766 could have faced.

Considering AA766's identity as an entanglement of interacting attributes, helps to comprehend the complex reality of AA766's situation. It is important not to forget that norms can be oppressive (Marshall 2008) and if a person has two or more attributes which are agency-restricting, an individual may struggle to defy societal rules, whether they desired to or not. For AA766, she never experienced being female without an impairment, nor did she ever experience her impairment without simultaneously being a biological female; the two were always present and always interacting. For AA766, it probably did not matter whether it was her sex or her impairment that caused her difficulty because both were parts of the same body.

Writing the osteobiography of AA766 presented a significant challenge for a scholar influenced by feminist approaches. On the one hand, I wanted to present a reflection of the past grounded, as much as possible, in the evidence I had. On the other, I felt that the narrative I was writing was heavily complying to gendered norms and stereotypes. The presentation of a female's life as one that revolves around themes of marriage and motherhood seems a backwards step in a feminist scholar's quest to present a more nuanced picture of female lives, but that means understanding and acknowledging the ways in which being female affected the lives of women in the past – even when that clashes with our own ethical and political views. This acts as an illustration of how the scholar's own agendas and desires complicate the research narrative and reflection of this

ultimately allows the researcher the best opportunity to accurately represent the experiences of the people we study.

8.2 How far does the mortuary rite reflect the day-to-day experience of an individual?

The composition of the grave, particularly in relation to objects, has been used to reconstruct the identity of the interred (Chapman 2013; Pearce 2015). So-called 'deviant' or atypical burials have received particular analytical attention within Roman and later period studies (c.f. Hodgson 2013; Milella et al. 2015; Murphy 2008). Skeletons with impairments evident tend to be represented more frequently in atypical burials than in the burial populations as a whole, leading researchers to postulate that the differential burial provision represented social reactions to these different bodies (Graham 2013; Taylor 2008). Death is the one true universal across time, space and society (Metcalf and Huntington 1991). Despite this however, social reactions to death can be highly disruptive of everyday life and behaviour. For example, Valerie Hope (2017a) describes how Roman mourners presented themselves as an inversion of the everyday norms of the respectable. Funerary rituals are a transition process. The deceased undergo a transition from inhabiting the world of the living to that of the dead, their body undergoing processes of decomposition, whilst simultaneously becoming an object to be manipulated by mourners. For the living, the funerary rituals cleanse them of the pollution of death and, in the process, they address the loss of the individual and reform as the new social entity without them. Roman funerary rite cannot be treated as a straightforward index of status but must be treated as a highly specific context of social display (Weekes 2016). The phrases 'everyday' or 'day-to-day', as in the question above, are used to denote life outside of the mourning period and the specific rituals related to this. This section aims to compare the findings from evidence of everyday life with impairment to conclusions brought from the mortuary context about burial of people with impairments.

The burial context of Alington Avenue seems to present an anomaly. AA766, a skeleton of a young female with Langer type mesomelic dwarfism, a visible, physical difference apparent from birth, was given a typical burial. In contrast, AA852, the skeleton of a much older male whose physical difference, an amputated arm, was only acquired for a short period before death, was given an atypical burial. This would suggest that physical disability was not automatically a cause for different burial rites (Crerar 2016). This would also suggest that the insights gained from the mortuary context would differ from the everyday reality. This will be explored further below.

8.2.1 Atypical burial at Alington Avenue

Explorations of 'deviant' burial often focus on the extreme cases (for example see Molleson 1999). Burial rite however needs to be contextualised within its local tradition in order to be understood. The term atypical may be a more useful, neutral term. Alington Avenue is not home to particularly extreme cases of atypical burial, there is however notable variation. There are four standard components to a burial at Alington Avenue: primary burial, supine burial position, coffin and shoes provision. 21 out of 37 (57%) of the burials fulfil all the latter three of these criteria. 55% (22/37) of the sample either had no grave good provision or only footwear evident. The two examples below are among those who do not conform to these trends.

AA1169 identifies the skeleton of a child whose burial stands out as by far the richest example at Alington Avenue (Davies et al. 2002). The individual is buried in a lead coffin, unique within this population, which helped the preservation of the skeleton and the grave goods, which included woollen stripes of fabric died with tyrian purple shellfish imported from the Mediterranean (Pearce 2013). The term 'deviant' burial, that is pervasive in the discourse, presupposes a negativity, so that wealthier or high-status burials are often overlooked within the genre; prestige burials do however represent a step away from the norm (Devlin 2015). It is possible that some cases of wealthy burials reflect negative attitudes towards the deceased; if we see burial of objects as a form of wealth destruction, it can be postulated that these objects are being removed from the world of the living as they have been polluted by unusual death (Williams 2006). Another interpretation would describe the burial of AA1169 as an incidence of *mors immatura* (Martin-Kilcher 2000). This phenomenon describes how the prematurely deceased were dealt with differently from the rest of the population through grave furnishing etc. Skeleton AA1169 is that of a child who died aged 4-6 years old. Whilst mortality rates are high for infants, they are the only individual within the Alington Avenue sample aged below 10 years, suggesting that this stage of childhood was an unusual time to die, although estimating mortality rates from cemetery populations is of course problematic (Redfern 2008). *Mors immatura* explains the additional investment into the grave of a child as a reflection of grief, mourning a life that did not achieve all the rites of passage expected. This latter explanation perhaps presents a more relatable and human interpretation of the archaeological record.

The burial of AA852, a 60+ year old male who, shortly before death, experienced a right arm amputation, seems to be more ambivalent in nature. AA852's burial provision in some ways fit within the typical patterns within the context of Alington Avenue. The individual was buried clothed and shod, like the majority of the population, and the grave was located as part of the central cluster of Alington Avenue suggesting inclusion within the burial community. AA852 was,

however, buried prone (he and AA770 were the only two skeletons at Alington Avenue to be so positioned) with the body of a dog (he and AA1178 were the only two people at Alington Avenue to be buried with dogs). The prone burial posture is perhaps the most indicative trait of the grave's unusual character. Prone burial is considered the most common of the so-called deviant burial types, although it retains its distinctly minority rite status throughout funerary archaeology (Milella et al. 2015). The cultural significance of a prone burial has been questioned, some believing that the face-down position was the result of careless undertakers or even cadaveric spasm (Gardeła and Kajkowski 2013; Quercia and Cazzulo 2016), although the latter could not possibly turn a body over in the grave (Knüsel et al. 1996). In the case of AA852, it is likely that he was carried to Alington Avenue on a bier rather than in the coffin, as this would be a heavy burden for a long journey over uneven terrain (Booth 2017) and the inclusion and careful positioning of the dog, in direct contact with AA852's body, suggests that the composition of the grave was deliberate.

Prone burial has been discussed in relation to disability status in funerary archaeological studies based in the Roman period (Graham 2013; Molleson 1999; Quercia and Cazzulo 2016; Southwell-Wright 2013; Taylor 2008). Necrophobia is the most frequently cited interpretation of irregular burial types (Milella et al. 2015). This idea surrounds the concept that burying populations feared the agency of the dead, because they had the supernatural belief that the corpse could harm the living (Parker Pearson 1993; Shay 1985; Taylor 2008). Superstition certainly played a major part in everyday life in Roman Britain (Allason-Jones 2005). People in Roman Britain and the Empire more broadly, believed that supernatural powers could inflict harm and cause impairment. Curse tablets often contain requests from people to deities to correct wrongs that had happened to them, in the form of physical violence, which in many cases would inevitably result in impairment (Cruse 2004). For example, a woman called Basilia, in retaliation for a stolen ring, requested that the thief '*be cursed in [his] blood and eyes [and] every limb, or even have all [his] intestines eaten away'* (Allason-Jones 2005: 150). The vast majority of curse tablets in Roman Britain have been found at Bath in Somerset (Mattingly 2007), which was connected to Dorchester via the Roman road network (Putnam 2007) and famous throughout the empire (Gesler 1998; Israelowich 2015). It would seem likely therefore that Bath's reputation was known in Dorset and, perhaps with that, the tradition of cursing and its perceived efficacy. It seems possible therefore that people believed AA852's trauma and ultimate death was the result of supernatural forces, perhaps explaining the burying community's anxious reaction to the deceased. Sudden and bad deaths are the most cited reason for necrophobia, of which AA852's death seems an example (Tsaliki 2008).

Alongside AA852's prone position, another unusual (and perhaps contradictory) feature of the burial involves the inclusion of a dog within the burial assemblage. Prone burials have been

almost always been presented as a negative reaction to the deceased on behalf of the burying population (Taylor 2008), whereas the inclusion of a dog is a far more ambivalent gesture to interpret, as can be seen in the fictive narratives in chapter seven. The inclusion of the dog requires additional consideration, planning and effort on behalf of the burying population. What would motivate such an action? There is evidence that dogs symbolised fidelity in iconography found in Roman Britain (Mazzorin and Minniti 2006). Studies into Anglo-Saxon funerary archaeology have described the inclusion of dogs in burials as acts of compassion, interpreting them as pets, a distinct category of animal separate from feasting animals (Lucy 2000). Dogs were kept as pets during the Roman period and these animals were sometimes killed so that they could be buried with their owners (Smith 2006; Toynbee 1971). The dog found within AA852's grave, although not small enough to be classified as a lap dog, was small, likely too small for a number of the other roles that dogs usually performed in Roman households and society, such as hunting (Cram 2000; Harcourt 1974). The size may be ideal, however, for a rat catcher function (Hildebrandt 2019). Lepetz (2017) argues that the burial of a dog with a human shows a desire to bring together two connected beings. Indeed, the photograph of the burial in-situ (figure 7.11) shows the animal having one paw protectively covering AA852's ankle, creating a Greyfriar's Bobby-type tableau which is difficult to resist. That AA852's dog was a pet seems the simplest explanation.

Another possible interpretation of the inclusion of a dog in the funerary context suggests that the connection between the interred animal and man manifested post-mortem, an interpretation that implies that the dog was sacrificed as part of the funerary process (Philpott 1991; Smith 2006). The ritual significance of dogs has been attested to in the local context, the animals having been used as part of the founding rituals of the town of Dorchester (Morris 2011a). Additionally, there are numerous mythological links made between dogs, death and the underworld throughout Greek, Roman, Germanic, Nordic, Celtic, Egyptian and Etruscan religions (Egmond 1995; Ferris 2018; Mazzorin and Minniti 2006; Smith 2006; Toynbee 1973). A dog's role in the funerary rite has been linked to their roles as guards, protectors and guides (Smith 2006). In death, it is suggested the dog, through its association with the underworld, would be able to guide the interred human to where they need to go. Alternatively, dogs in burials have also been interpreted as guards, preventing the interred from leaving the grave and disturbing the living. An example from nearby Lankhills, Winchester, can be quite confidently be interpreted as such, as four large dogs were buried with one individual (Philpott 1991). The burial of AA852 is far more ambiguous. These roles as guard or guide need not be mutually exclusive and, either way, the dog seems an added precautionary measure, ensuring the individual smoothly transitions from the world of the living to that of the dead. Donna Haraway's explorations of human, non-human

relationships, particularly considering dogs as companion species, is of relevance here (Haraway 2008). In an exploration of Haraway's (1991) cyborg theory, Reeve (2012) discusses the lived experience of prosthetic-users and includes service animals within this category (see section 2.2.3). Haraway focuses on the impact of companion species and experiences of the living. Can these themes be extrapolated to that of the dead? When interpreting the animal as a post-mortem guide for the deceased, we could argue that AA852 was provisioned with a service animal for the afterlife. In a sense, the burying community can be argued to have joined AA852 with the dog, creating a cyborg, in this case a human-animal hybrid, for the afterlife. In doing so the burying community are aiming to change the individual's experience of their death and enabling the individual and animal together to transition from the world of the living to the dead.

The two differing interpretations of the inclusion of the dog in the burial have been interesting to explore in the context of the fictive narratives in chapter seven. The use of the animal as a guide interpretation seems to have more weight behind it, especially when considered next to the common necrophobia connotation of the prone burial position, and the use of dogs in similar ritual processes elsewhere in the nearby locality.

8.2.2 Masculinity

In the previous section (8.1) we saw how femaleness, in many ways, was a greater impediment than impairment to being a Roman citizen. Masculinity was highly prized within the Roman world (Harlow 2004; Redfern 2005), however, according to Roman sentiments, masculinity required much more than biology. Idealised masculinity came with expectations of behaviour, that an individual would fulfil the roles of head of the household, husband, father, breadwinner and a Roman citizen (Harlow 2004). There are many ways that a biological male can fail to be a socially acceptable Roman man, whereas there are fewer known social expectations of a biological female. Masculinity, despite expectations of strength, is a fragile status which requires reassertion and performance. It would therefore stand to reason that impairment would have greater potential to impact upon a male identity, perhaps explaining to some extent the differential treatment of AA852 compared to AA766.

Gender theory has argued that gendered identity needs to be constantly performed and renegotiated (Sørensen 2013). Stahl (2011) rather crudely stated that Roman men and women were judged differently, on their ability to bear arms or bear children respectively. Concepts of masculinity have been often attached to violent pursuits and the classical world was no exception (Foxhall 2013; Foxhall and Salmon 1998a; 1998b). Trauma was not an unusual experience for the population of Alington Avenue and Roman Dorset more generally (Redfern 2005; 2008; 2010; 2013). At Alington Avenue, trauma lesions were only found in biologically male skeletons. Of the

seven total instances of fracture, four are fracture types sometimes associated with interpersonal violence (two parry fractures and two mid-shaft metacarpal fractures, with the latter being a common boxing injury (Lovell 1997)). Without the context of a battlefield, the interpretation of fractures as the result of interpersonal violence needs to be made with care (Redfern 2017). Yet the bias of occurrences of trauma in biological males along with the typologies of fracture tentatively suggest that interpersonal violent behaviour was intertwined with ideals of masculinity within the Alington Avenue population.

Flemming (2000) claims that written sources suggest that a man's dominance and authority as the *paterfamilias* was challenged when they required medical intervention. Ideal masculinity involved demonstrating control over the self and household, therefore having to obey doctor's orders and assuming the role of the submissive was contrary to the ideal Roman man's need to demonstrate self-mastery (Flemming 2000). Linked to this, the expected behaviour exhibited by a man in response to pain was likely codified (Zurhake 2020). AA852 was likely an individual who had to submit to medical attention and experienced extreme pain, and this could have dented his masculine credibility. The osteobiography of AA852 (section 7.2) reconstructs the story of an older man who had his right arm amputated as the result of medical intervention. The process of amputation and the initial trauma caused a great deal of pain and distress. On top of this, pharmacology, possibly used during and post-surgery, may well have involved opiates, which have been found in Roman Dorset, and which can result in erratic behaviour and hallucinations (Gale 2003; Jackson 1988). Additionally, had AA852 survived, they would have needed support and care, whilst they recovered and then adapted to their new circumstances. If his right hand had been dominant, he would have likely been clumsy. All this is likely to have caused behaviours that did not conform to the ideal masculine persona.

The decision to amputate would not have been an easy one and not just because of the inherent risk involved in the procedure. It is highly likely that AA852's right arm was his dominant arm (approximately 90% of the world's population today are right-handed (Llaurens et al. 2009; Wirth 2010)). The right hand has been found to have had additional ideological importance in the Roman world, with it being the hand used for handshakes, oath taking and cult practices (Wirth 2010). There are no extant rules in Roman civic and legal codes that imply trauma or a loss of limb would inhibit a person's political participation (Gardner 2002). Although, Pliny the Elder, in his description of the exploits of Marcus Sergius, an aristocratic veteran who lost his right hand in 218BC, says the following:

"He had a right hand of iron made for him and going into action with it tied to his arm, raised the siege of Cremona, saved Piacenza, captured twelve enemy camps in Gaul: all of which exploits are

testified by his speech delivered during his praetorship when his colleagues wanted to debar him from the sacrifices as infirm …" (Pliny the Elder *Natural History* 7. 104-105)

This passage is a rare example of a clear-cut evidence of a disabling attitude from the Roman world. Sergius' peers sought to prevent him from performing a sacrifice, part of his expected public role, because his impairment necessitated the use of his left hand (Wirth 2010). This response on behalf of Sergius' colleagues could be the result of the left side's association with malevolence (Wirth 2010). Clothing, like the toga, restricted the left arm's movement and hide it from view. The left hand was associated with the clandestine, with thieving, sexual activity, magic and the underworld (Wirth 2010). There is also evidence that the left hand was given a secondary role in dining, with bread being held in the left and meat and fish, the most prestigious items, held in the right (Wirth 2010). Although the evidence for ideology surrounding the left discussed above mostly concerns Ancient Rome, and therefore has questionable application in a Roman British context, the dominance and favour of the right has been argued to be an anthropological constant (Wirth 2010). Ancient Egypt and Persia have also similar ideologies evident (Wirth 2010) and additionally, there is evidence for the ideological preference of right hands in Roman British iconography (Eckardt 2014). In additional, an incomplete body had implications for a person's perception as a Roman citizen, as a citizen's body was expected to be inviolable (Fögen and Lee 2009). Punitive amputation was rarely used within the Roman world. When it was used, the practice was often condemned as too cruel (Wirth 2010). Punitive amputation tended to be reserved for the punishment of non-citizens (Stuckert and Kricun 2011) and for soldiers who broke their contracts or stole (Wirth 2010). Amputations have therefore been described as stigmatising, classifying an individual as an *infamia* (a disgrace) and untrustworthy at first sight (Wirth 2010) The amputation of AA852 could therefore have inadvertently created this association of the individual as a non-citizen, perhaps even criminal. Nevertheless, the active decision to perform such as surgery demonstrates that a judgement call was taken that life without a right arm was preferable to no life at all, even with the dramatic altering of a man's abilities at least in the short to medium term. Reflection on the decision-making implicit behind the amputation procedure hints at a society willing to support a person with changes in their abilities post-operation.

Prior to the operation, AA852's skeleton shows little evidence of other changes which would alter their life course or dis/ability experience. There is no evidence of any healing after the amputation, suggesting the individual did not survive long post-operation. Impairment, therefore, only seems to have impacted the last few hours of his life and post-mortem. This late change in dis/ability identity is hypothesised to have altered the society's perception of the individual,

resulting in the changes in the burial provided. This viewpoint means that a person's dis/ability identity was seen as significant after death. Perhaps the body of AA852 was a 'disabled corpse'.

If we postulate that the dis/ability identity only really came to the fore post-mortem, we return again to the funerary context. By considering the specific funeral of AA852 in his changed state, we can enrich our understanding of the evidence and of wider issues surrounding gender, dis/ability and funerary rites. Roman funerals were public performances, involving, for example, the transportation of the body from the living space to the burial ground in a procession (Hope 2017a). Burial ritual tends to place the deceased's body centre stage (Graham 2015; Hope 2017a). The individual is silenced yet on display, throwing visible differences into sharp focus, perhaps explaining why physical differences have renewed attention post-mortem. The burial tends to be a carefully choreographed scene, representing the deceased person's last moment in the land of the living, and the body in its position forms the centre piece of the final, public visual statement about the individual.

If we think about AA852's death and funeral as a performance, a number of insights can be drawn. Theya Molleson (1999), when discussing the atypical burial of an individual with an invisible impairment, argued that the differential behaviour the person exhibited caused them to be perceived as different and potentially dangerous to the living in death. In other words, it was the individual's performance which the burying community responded to, and ultimately caused the individual's designation as an 'other'. The death of AA852 was sudden and defied expectation. The individual's death was performed differently, requiring a different reaction by those left behind. As already discussed, the trauma may have affected the individual's masculine persona, leaving the individual incomplete. This incomplete-ness is compounded as there is no evidence that the amputated limb was buried with the rest of the body. This may be possibly due to issues with archaeological preservation; however, it is speculated that the arm was not included within the burial. After death, the traumatic lesion would have affected the performance of the burying community, acting as a visible reminder of the distressing cause of death. This would have been apparent during the preparation of the body, where people would have handled the traumatised limb, reinforcing the new difference of this body. The physical nature of the body is centre stage during the burial process, and so a physical difference is emphasised.

Garland-Thomsen's (2011) concept of a misfit is again applicable here. AA852's changes in dis/ability status clashes with the image of the Roman masculine citizen. Particularly the loss of the arm, renders the body violated and incomplete, and therefore not masculine. There has been a case of a skeleton in Dunstable with evidence of a fracture which was 'corrected' within the grave (Southwell-Wright 2013), suggesting that the image of the body is important during burial.

For whatever reason, it seems that the correction of AA852's arm in burial was not possible. The difference of AA852's body would have been new and marked. Additionally, the behaviour and performance of the individual inevitably resulting from the operation also clashed with the self-control critical to Roman ideals of masculinity, ultimately resulting in a bad death. These bad deaths tend to be associated with fears of the unsettled dead (Shay 1985; Taylor 2008).

The funerary ritual acts as a process through which the burying community try to regain control over the distressing and ultimately uncontrollable phenomenon that is death. This is even more an issue in the case of unexpected death. Thus, the funerary process does not quite reflect day-to-day living, although of course it is something that all societies deal with. Instead, the decisions made about a funeral can give insight about what was seen as important to highlight during this crucial performance. Understanding the process and the performance of the actors involved however, helps explain the burial provision evident for AA852 and why the impairment, which had no impact for the vast majority of the individual's life, was so emphasised at burial. The case study of AA852 emphasises the unique nature of the mortuary context and helps us understand the nuances of insight that can be bought to the fore in this setting.

8.3 Is the term 'dis/ability' an appropriate term to use when discussing impairment and society in Roman discourse?

This final section aims to demonstrate the efficacy of the 'dis/ability' as a continuum approach used in this thesis. This perspective understands that everyone has an aspect of their identity related to their body's ability, which needs to be understood within their very specific cultural and time of life context. The aim behind this approach was to explore the ordinary as well as the extraordinary palaeopathological examples within the osteoarchaeological record, challenging the notion that disability is a minority concern. In this instance, what then becomes important are the ramifications of being perceived as different or not. Older age is often assumed to be accompanied by impairment. Indeed, "*a disabled individual may, in fact, become perceived as more normative with increasing age, when societal expectations regarding 'performance' and 'abilities' may become more closely aligned*" (Gowland 2017a: 244). The osteobiography of AA210 presents a series of pathologies that are relatively frequently encountered in the osteoarchaeological record, and aims to demonstrate the more common experiences of dis/ability changes over a lifetime, particularly exploring the consequences of old age on dis/ability identity.

8.3.1 Older age, the body and Roman society

Until relatively recently, old age in the Roman world was an understudied topic, due to the common misconception that it was rare for people to have survived into older age in the past (Appleby 2017; Gowland 2017a). Life expectancies of between 25-30 years (see for example Harris 2016) is a mean average but is often misread as a mode. In other words, people assume that age 25-30 years was the most common age at which to die (Appleby 2017). The mean life expectancy age estimate, however, is affected by high infant mortality and the maximum age estimation not being particularly old (Appleby 2017). In no small part due to the improvement in osteological ageing techniques (see section 5.1.6), the elderly have been found to be a far more present demographic in the past, with the over 60s now estimated to have constituted between 6-8% of past populations (Gowland 2016a: 515). In contrast, 10 out of 37 (27%) of the sample from Alington Avenue were from the over 60 years demographic.

Like dis/ability, ageing is rooted in, and cannot be separated from, the body (Appleby 2017). Body decline is an inevitable part of the ageing process, but the nature of this decline is not fixed or universal (Appleby 2017). Joanna Appleby (2017) stated that ageing appears in the body in four ways, through changes in: appearance, function, disease and skill. Appearance changes include changes in hair, skin, clothing, posture and body movement (Appleby 2017). For example, the pathological changes evident in skeleton AA210 (see 7.3.4) could have contributed to a change in the way they were able to walk. In the modern world, 20-40% of 65+ year olds and 40-50% of 85+ year olds have measurable problems with their gait (Appleby 2017), pointing towards this being an age-related experience. The body also changes in its abilities to function, overtime people experience changes in their stamina and become physically less able for example, from the age of 40 muscle mass and quality decreases (Appleby 2010; 2017). Ageing is also related to changes in all five senses, for example, long sightedness is often reported from the mid-40s in modern populations (Appleby 2017). Older age is disproportionately associated with certain diseases, such as osteoarthritis and older people tend to experience ‘immunosenescence’, a reduced function in the immune system which increases their vulnerability to disease (Appleby 2017). Finally, a decline in manual function and dexterity will impact a person’s skill and possibly their craftmanship (Appleby 2017).

Along with the changes in the body, ageing is also a social process of a construction of difference, with changing a social expectations and attitudes (Appleby 2017). Ageing can be related to notions of withdrawing from work and social life, changes in living situation and perhaps increased need for care (Appleby 2017). In the Roman world, male ageing was a gradual process, in many ways more influenced by socio-economic factors than biology (Moore 2009b). In the

seven stages of a male life, as identified by Roman scholars, two described older age: the elderly, aged 56-68 years, and old aged, composed of the over 68 years old (Harlow and Laurence 2011). Expected behaviour and agency gradually shifted with age, slowly seeing a decline in labour and withdrawal from work. For example, military service requirements changed from 46 years old and men were not expected to be marrying after the age of 60 (Harlow and Laurence 2011). This gradual ageing process, was viewed through the lens of the four humours theory as a cooling of the body, was reflected in medical literature; '*ancient doctors saw the gradual physical and mental deterioration of old age as part of an inevitable process, a wasting away or extinction of the flame of life*' (Nutton 2013: 23-24). This gradual decline could not be cured but medical treatment instead aimed to delay it instead (Cokayne 2003).

Evidence from the Roman world reveals ambiguous attitudes towards older men; the elderly can be revered for their experience and wisdom or mocked for their physical decay and senescence (Cokayne 2003; Harlow and Laurence 2011). Maturity was valued by the Romans. Age 42 has been described as the optimal age for Roman men, as this saw the peak level of maturation, before decline (Harlow and Laurence 2002: 19). It was at this age, therefore that men had the greatest capacity for agency as reflected in the continuum graphs (see figures 7.12 and 7.19) (Harlow and Laurence 2015). There are examples throughout the literature of older men being admired for their experience, and the attainment of old age has been found to have been proudly recorded epigraphically, even to the point of exaggeration (Gowland 2007; Harlow and Laurence 2011). This reverence however depended upon the perceived maintenance of mental faculties (Harlow and Laurence 2015). Self-control was the crucial factor to the attainment of perceived masculinity and receiving respect in older age (Cokayne 2003; Williams 2010). Perceived loss of control is the basis for a number of tropes associated with old age which were disdained, such as old people being lustful, dependent, trembling, alcoholics or senile (Cokayne 2003; Gowland 2016a; 2016b; Harlow and Laurence 2011). It appears therefore that it was how one behaved or performed in their older age which dictated their perception. As mentioned earlier, non-literate societies often do not determine age through chronology, but through physiological signs, such as appearance (Appleby 2017). It could be argued therefore that the performance of age is what becomes important for age identity. Performance is not only recognised by a viewing community, but also the changing experience of an ageing body affects a person's ability to perform, and thus changes their perception of themselves. Physical changes in the body, often seen in older aged individuals, such as incontinence, have been noted to contravene codes of behavioural restraint in societies, resulting in social sanctions like marginalisation (Appleby 2017). The disdain for the older age associated behaviours seem to echo this social sanctioning, with behaviours associated with old age being contra to codes of ideal Roman masculinity which require self-mastery and control (Cokayne 2003). This idea of age as a performance is also key when we think of people spending

effort and resources to hide their ageing, which is evident in past and present societies (Appleby 2017). Adults in the Roman world have been shown to have feared old age and the marginalisation associated with it and used cosmetics to hide the physical appearance of ageing (Harlow and Laurence 2011).

Thinking about age as a performance, we can consider AA210's osteobiography. AA210's skeleton presents evidence of accumulated pathology over a lifetime. The three incidents of fractures were likely the result of two separate events, as suggested by the different healing stages evident. The narrative in section 7.3.5 explores the notion that the hand and arm fractures were obtained in a violent episode in youth, whereas the ankle trauma was caused by a fall. The narrative describes a very different experience of fracture acquirement and recovery between youth and older age and explores AA210's changing experience of their own body, struggling to keep up with the pace of the crowd. The narrative alludes to how this changed the perception of themselves and their age identity. Toothlessness is particularly pertinent in light of AA210, who lost a significant proportion of his dentition before death, likely affecting his ability to speak clearly and to eat. Toothlessness has been regularly associated with old age in contemporary and past cultures, and Roman society was no different it being associated with other issues like dementia (Appleby 2017; Laes 2018). The ability to speak has been deemed particularly important for Roman society (Gardner 2002). The change in speech could be a very visible performative change that labels a person as old, hence in the narrative AA210 does not speak at all. This speculative social sanction would be self-inflicted but instituted through society's propagated ideologies of age-related and masculine behaviour.

Harlow and Laurence (2015: 25) said "*We can find evidence for those who lived well with their age, but their age could determine how they were treated by others and that treatment could limit their capacity to act*". This quotation and the discussion are very reminiscent of the impact of a disabling society on the experience of an impairment. Harlow and Laurence (2011; 2015) have explored the intersectionality of older age and disabled identity in the Roman world, going so far as to describe old age as a disability at this time, even more so than physical impairment (Harlow and Laurence 2015). This description of old age as a disability has merit, particularly due to ancient medical writings describing the ageing process in terms of an incurable illness, and typical symptoms of the ageing process having been described as disabling (Cokayne 2003; Harlow and Laurence 2015). The relationship between old age and dis/ability is the focus of the next section.

8.3.2 Older age and dis/ability

The likelihood of disability increases with age, both in the modern day and in the past. A 2016/17 survey, conducted by the UK Department for Work and Pensions, found a 45% incidence rate of disability in the pension aged population, a dramatic increase compared to 19% of working age adults and 8% of children (Department for Work and Pensions 2018: 1). At Alington Avenue, potentially impairing palaeopathology, such as trauma and back problems, are most evident in the older age categories (see figure 6.8).

Five skeletons (approximately 14%) of the sample studied from Alington Avenue exhibit palaeopathology that can be confidently categorised as trauma. These five individuals represent the minimum number of individuals at Alington Avenue to have experienced such injuries as others may well have endured trauma which left no skeletal trace. All the individuals with incidents of trauma evident within their bones have been identified as adult biological males, and four out of five were aged to be either in the older or much older age group. These incidents vary in severity from a single metacarpal fracture (AA1032) to an arm amputation (AA852). Only AA210 demonstrates evidence of multiple fracture lesions. AA210 is the skeleton of a 60+ year old male whose skeleton presents a series of pathologies within the dentition, spinal column, as well as fractures. The fractures are likely the result of two different traumatic events, as testified by the different levels of healing evident within the right ankle compared to the right hand and right arm. The differing experiences of trauma at different stages of life provided interesting material for the fictive narrative (section 7.3.5).

Considering fracture incidence enables us to escape modern ideas of what defines a disability and explore the variability of the dis/ability continuum of an individual. Fracture may seem an unusual choice to discuss within the parameters of impairment and disability, because of the expectation that such an injury would be temporary, and healing times are estimated to be on average six weeks (Ortner 2003). Some incidents of fracture, however, even after healing, can present permanent consequences for the affected individual, as poorly-set fractures could be visually obvious and often caused mobility impairments (Laes 2018). At Alington Avenue, the metacarpal fracture in AA210 presents an instance of long-term deformity in the affected bone (Redfern 2010). The period of injury and healing is postulated to present a difference in dis/ability experience and this is of particular interest here.

Old age seems to have been a high-risk stage for trauma-related injury. The skeletons, however, are likely to present a false perception, with many incidents of trauma, especially those occurring as a juvenile, likely to have been rendered invisible over time after healing. It is also not possible to ascertain exactly at what stage the evident traumatic lesions were acquired (Ortner 2003). Yet,

it is possible that a high incidence of fractures in the older age groups can be meaningful; for example, this could be interpreted as evidence of elder abuse. Alongside the general belief that not many people lived to see old age, there seems to be a pervasive perspective that the elderly would have been respected and valued in past society more than they are today (Gowland 2016a; Redfern 2017). Rebecca Gowland (2016a; 2017a) has attempted to recognise the victims of elder abuse in the past through the human skeletal record, identifying that perhaps the most suspicious sign of elder abuse in a skeleton is the presence of multiple fractures in various stages of healing. Skeleton AA210 is the only individual at Alington Avenue who seems to fit in this category. Gowland (2016a) lists the bioarchaeological signs of elder abuse which includes:

- Multiple incidents of fractures
- Fractures located in the mid/lower face, ribs, and upper extremities.
- Spiral or oblique fracture types

Women are at least twice as likely to be victims of elder abuse than men, and people with physical or cognitive impairments are also more likely to be victims of abuse in old age (Gowland 2016a). Elder abuse, however, is challenging to prove definitively within a bioarchaeological context, because of the difficulty involved in differentiating the signs of injury or neglect from natural ageing processes, especially in older individuals' remains that often do not preserve well (Gowland 2016a). Despite having three fracture incidents evident within the skeleton, likely representing two separate traumatic events, it is unlikely that skeleton AA210 represents a case of elder abuse. Skeleton AA210 does not fit into any of the higher risk groups and the injuries do not occur in the most suspicious locations identified by Gowland (2016a).

Rarely did people reach age 60 without having experienced prolonged pain (Laes 2018). Perhaps due to the ubiquity of these painful experiences or due to the gradual nature of the changes in an ageing body, people in older age groups do not always readily self-identify as disabled. They instead perceive their experiences as those that naturally accompany old age and therefore do seek additional support for them (Kelley-Moore et al. 2006). This also implicitly suggests that the categorisation of 45% of people at pension age as disabled may be an underestimate. Pain and impairment are expected side effects of old age and therefore many symptoms for which support would be saught at other times of life, are simply accepted in older age, as par for the course (Gowland 2017a). This attitude towards old age and acquired disability would clearly impact the care offered to older patients; if doctors had the attitude that old age was incurable, they may well have not wanted to support a patient who they believed they could not help and might spoil their reputation.

"*Impairment and frailty are significant factors in the identity of the elderly, whose social interactions become rooted in their functional physiology and competence*" (Gowland 2016b: 74).

Impairment therefore is considered a biographical inevitability. Whether perceived in a positive or negative light, age seems to become the dominant identity trait in older Roman people; for example, grave goods in Roman Britain reduce in number and variety. This has been interpreted as a reduction of status, particularly gender status (Gowland 2007; 2016b; 2017a). Just like femininity overshadowed disability identity in its impact, old age has power to subsume the stigma of disablement replacing it instead with the construct of frailty (Gowland 2017a). It is interesting in the context of AA210, and other older people, to consider the ramifications of not being seen as different. In the case of AA210, the dis/ability and age attributes of his identity are not mis-fitting but complement each other nicely. Is there a disadvantage to not being stigmatised? Kelley-Moore et al. (2006) explored the ramifications of just this in the modern world. Today, being categorised as disabled comes with benefits in the form of welfare provisions and legally mandated accessibility arrangements which people miss out on if they "just" perceive themselves as old. Although these provisions were not available in the past, it could be argued that not being identified as different can increase difficulty, as support and help is not made available.

Discussing dis/ability as a continuum allows the inclusion of many more experiences into the debate. In some fields, this may make the subject matter unwieldy, but in osteoarchaeology it makes the most of the evidence that is available. The osteobiography of AA210 describes the story of the more every day, common experience of body change, and allows discussion of the ramifications of stigma, and the consequences of not recognising a bodily difference. Above all, AA210's story calls into question the idea that disability experience is that of a minority of people, which reminds us as readers not to think of disability as something that happens to someone else.

The behavioural expectations of an individual are key to understanding how impairment impinges on that person, and therefore key to this is the age and gender of that individual. Age and gender of the individual are also key in terms of the impact of an impairment on their identity and provision of treatment (Gowland 2017a). The individuals discussed in detail in chapter seven, are unlikely to have been grouped together in life and identified as 'disabled' or an equivalent. There are some similarities to be seen, for example it is interesting to note that old age was sometimes referred to as a second childhood in the Roman period, mirroring AA766's possible designation as child-like (Gowland 2016b; Harlow and Laurence 2011). Thinking about the experiences we have evidence for, through the lens of dis/ability, has rendered valuable insights. Whether realised or identified directly, everyone has a relationship with their body, which changes over time and is altered by age and gender, offering a universally applicable viewpoint that is relatable.

Skeleton AA210's osteobiography brings to the fore the relationship between dis/ability and age, and demonstrates the variability of a body's ability over a lifetime. The body naturally changes as

one ages, and consequently the experience of living in that body changes also. None of the pathologies exhibited in skeleton AA210 are particularly exceptional and it therefore represents a more typical experience. The continuum of dis/ability viewpoint highlights that most people's dis/ability experiences fall within the middle of the two extremes of disabled and non-disabled, a perspective exemplified by the osteobiography of AA210.

Chapter 9 Conclusion

There were two broad aims underpinning this thesis. The first was to demonstrate how skeletal remains can contribute to a theoretically informed understanding of disability in the past. The second was to extend the scope of impairments under study to include ordinary, as well as the extraordinary, aspects of disability. The integrated osteobiography approach was developed to utilise palaeopathology, not only as a means of impairment diagnosis, but also to study dis/ability as a social and embodied phenomenon. The primary goal of this final section is to evaluate how successful the integrated osteobiography approach, and the project generally, was in these endeavours. This chapter also discusses how the study fits into the wider academic field, and offers some final reflections and ideas for future research.

9.1 How helpful is the integrated osteobiography method when studying dis/ability in a Roman setting?

The integrated osteobiography approach has successfully demonstrated how palaeopathology can be used to inform about disability in the past, beyond the impairment diagnosis, to explore the social phenomenon and its variation over time. The employment of the dis/ability as a continuum theoretical standpoint encourages us to view everybody as having an element of our identity linked to our body and its ability. This actively challenges the notion that disability is something experienced by a minority of people. It is fair to argue that the employment of the integrated osteobiography approach, influenced by Tilley (2015a), had difficulties in its application within a Roman setting. Tilley's study of prehistoric examples, explored the consequences of palaeopathologically diagnosed impairments in the context of hunter gatherer society, whose members were reportedly employed in a more limited number of activities. The Roman setting, however, presented a context of so many potential occupations that narrowing down the everyday pursuit of anyone person, lacking any grave good clues, is impossible. Focus therefore switched from exploring the impact of dis/ability into everyday occupations, to looking into the relationship between dis/ability and the life course, a social structure that shapes people's day-to-day activities and attitudes.

Three osteobiographies were singled out for the stories they could tell. Through the osteobiography of AA766, we were able to track the development of an impairment alongside the anticipated life course trajectory, and explore the relationship between female and dis/ability identity. The story of AA852 saw the acquisition of a dis/ability later on in life, and through the mortuary archaeology, the social reactions to a "disabled corpse" and the circumstances were

discussed. Through AA852, we explored the consequences of altered dis/ability status on masculinity, and better understood the unique context obtained from funerary archaeology and what it can reveal. At the beginning of this thesis, the 'Superhuman' trope in disability discourse was singled out as currently pervasive and to be challenged within this project. Part of the logic behind this endeavour was to attempt to steer away from the idea of disability as a minority concern. It is a fair criticism that two of the three osteobiographies centre stage of this thesis do present atypical palaeopathology. The osteobiography of AA210, however, demonstrates how a similar approach can be utilised to interrogate more familiar and common pathologies, and present a description about a life affected by dis/ability, which until now would not have been identified as such. The use of clinical information to explore potential palaeopathological impacts and its likelihood is not a perfect solution but does present a scientifically rigorous way to explore dis/ability beyond the extraordinary, and in the case of AA210, explore its relationship with old age. A definite advantage of the integrated osteobiography approach, therefore, is the opportunity to explore the entanglement of disability with other aspects of identity such as gender and age. To study dis/ability in isolation evidently would have lost much of the story.

A key part of evaluating the project involves reflection upon its place in the broader academic discourse. The study can be reasonably classified as a microhistory. Indeed, osteobiographies more broadly have been categorised as such (Hosek 2019). Microhistories have been argued to have limited scope (Buikstra 2019b). A fair criticism of the thesis has to be to question its applicability to the wider scholarship. How much does the thesis extend the current boundaries of knowledge? When this study was initially conceived, a much larger, international scale project was proposed. Over time, however, the parameters of the project became smaller, in no small part due to accessibility of the skeletal assemblages, until it focused on one cemetery site only. However, the focus on a single cemetery allowed more contextual detail to be obtained. Osteobiography is a labour-intensive process. To replicate similar levels of detail for larger samples would be beyond the usual time constraints afforded in most projects. The context within which dis/ability is experienced is a key factor. Contextualising a person with impairments alongside their cemetery peers proved crucial to understanding which experiences were common or not. Roman Britain was not a homogenous context within which to have experienced dis/ability, the differences evident from the pre-Roman tribes created differences in women's political involvement and receptions to the Roman conquest, to name but two in a long list, making the Roman British context one that is not broadly applicable.

When answering questions about the place which microhistories inhabit in discourses, it has been argued that they provide a much-needed alternative, to dominant narratives within academia (Hosek 2019). Osteoarchaeology has been argued to offer a more democratic narrative, less

focused on the high status and literate people dominating texts (Robb et al. 2019). The intention of this project was to build on this democratic theme, to explore a broader range of impairments than has been studied as such in osteoarchaeology before. There can be a strong argument that this thesis provides a similar alternative to the prevalent discourses within Roman disability studies, namely that of the infanticide and exposure debate which sees the majority of osteoarchaeological contribution to the field. In this role, the thesis provides a valuable insight. I cannot say how far or not infanticide or exposure was carried out in Roman Britain, and it seems unlikely that we will ever know its true prevalence. What I can say is that one person, at least, with visible impairments at birth did survive into adulthood, that being AA766.

9.2 Final reflections

The influence of feminist theory is undeniable. Karen Barad's (2007) concept of entanglement helped understand the relationship between different facets of identity. This thesis is unapologetically multi-faceted, straddling numerous disciplinary boundaries. Finally, the inclusion of the fictive narratives was a result of feminist scholarship. The decision to include the fictive narratives within the thesis was agonised over by the author. I questioned whether the fictive narrative approach was appropriate for such a serious and sometimes dark topic. The discovery of the work by Bernadette Brooten (2015) strengthened my resolve, however, she having used fictive narrative to explore the theme of slavery sensitively, yet unflinchingly. The risk of being labelled as naïve and not academic is ever present when one utilises such approaches (van Helden and Witcher 2019). Some have dismissed fictive narratives as tools for use in public engagement (Hosek and Robb 2019). This kind of attitude however seems to enforce the "ivory tower" perception of academia, that findings from research are mostly kept to the elite few in academic circles, and the salient points, which are deemed to be at a level that the layperson can understand, are trickled down for public engagement. Why cannot narratives made for public engagement be theoretically nuanced? A prominent motivation for the inclusion of the fictive narratives was as an attempt to make the academic prose more accessible. Osteoarchaeology in particular involves the use of much terminology and jargon which can be dense and difficult. The use of jargon feeds the gap between academia and the wider public, making the ivory tower even taller and more remote. One of the advantages of palaeopathological study is that it presents a more democratic version of the past; we do not just study the elites. The desire for democracy should also extend to the readership. Stepping away from lofty academic jargon has been demonstrated to engage readers and improve empathy (Boutin 2019; Boutin and Paolucci Callahan 2019). The ethics of osteobiographies and fictive narratives has been questioned (Buikstra 2019b). It is arguable that the individualist approach reflects more the modern interests

than the historical. Additionally, there is the possibility that inspiring emotional responses can distract a reader from their complicity in a colonial system or be experience appropriation (van Helden and Witcher 2019). Yet it seems preferable to the dehumanisation that human skeletal remains are sometimes subjected to, leading to their commodification (Buikstra 2019b).

'*In both osteobiography and biography, part of the art is knowing when to stop*' (Robb et al. 2019: 27). Fictive narratives undoubtedly offered the author artistic licence to explore scenarios and situations which are only speculation, yet knowing the limits with which to push the fictive narratives was a difficult balancing game. One thing I avoided for example was ever giving a name to a skeleton I studied. Suggesting a name for the individuals within the narratives was another issue I agonised over. Osteoarchaeologists generally do not name human skeletons and, despite a desire to humanise the past, this is an ethical standpoint I have maintained. Evidence particularly of Roman British women's names are the exception rather than the rule. It was interesting to read Robb et al.'s (2019) paper which seemed to suggest that what people thought was the biggest element missing from an osteobiography was the individual's name. Robb et al. (2019) went onto demonstrate the more individual details that could be obtained from an osteobiography in contrast to the text-based biography. Although others, most notably Alexis Boutin (2012; 2016), have opted differently, and I do not condemn those who have done so, I maintained the viewpoint born from my osteoarchaeological background and decided to not name the skeletons I studied, even in fiction. In the end, this decision was made purely on what I felt comfortable with.

I have already described the difficulty associated with writing the narrative of AA766. The archaeological and historical record frustrated the desire to write a story about a woman that did not focus on the themes of marriage and motherhood. This has formed the basis of criticism for other works, such as by Lindsay Allason-Jones (Rogers 2015). The problem is that, although Roman women are definitely stereotyped as caregivers and their economic contribution is no doubt underestimated, there is limited evidence of anything else; their occupation rarely was recorded as it does not seem to have been an integral part of female identity (Sherratt and Moore 2016). I could not justify a speculatory foray into female employment, with such scant evidence, just to suit a modern, feminist agenda. When writing the narratives, I was also aware of the pervasive tropes made about people with disabilities. Garland-Thomsen describes literary disabled people, as often not depicted as well-rounded humans, but as sentimental, overcoming, tragic, superhuman etc. (Garland-Thomsen 2005). These were traps I wished to avoid. It was a difficult balance, avoiding the pitfalls of writing AA766 say, as a heroine, who did not let anything get in her way, and thus potentially attributing too much agency to the individual (Hosek 2019), but also avoiding a very doom and gloom, suffering type narrative. Like Christian Laes (2021) and Joanna Appleby (2017) in her discussion of ageing, I had a moral balancing act to perform

between desiring to avoid portraying disability as a wholly negative whilst acknowledging that it can and does involve difficulties for people. Laes summarised it perfectly when he said that 'I have therefore tried to sketch a picture that is neither too black nor too rosy' (Laes 2021: 208). Here the voices of people I knew undeniably had an influence. My talk with Joan Lyons undoubtedly helped create a narrative, hopefully, avoiding the usual tropes attributed to disabled characters. Additionally, the frustrated, crabby voice of AA210's fictive thoughts come largely from my Father.

I started this thesis with reflections of my own background with the theme of disability and sharing its impact on my perspectives and the selection of this topic. During the years of doctoral study, my personal experiences with disability have also continued and developed, which have clearly impacted the trajectory of this thesis. So again, it is important to reflect upon this. For example, my mother fractured her arm and leg. Her experiences reiterated to me that such pathology is not necessarily simple, and subject to only the weeks of healing cited in some texts (Waldron 2009). The clearest impact, however, has come from my Father having been diagnosed with Alzheimer's disease, a form of dementia. The relationship between older age and disability was played out in my life experiences: my father did not equate his own difficulties as worthy of the support that his son's did, even though the similarities were there. AA210's crabby voice reflects my Father's frustration with his body that he perceived as failing him. In his narrative, AA210 does not identify himself alongside AA766, the individual with dwarfism, reflecting my Father's similar self-perception. I also intentionally left AA210's voice to be only thoughts. Whilst the stigma attached to apparent disability creates difficulties, I strongly believe that not being recognised as having a disability is also fraught with challenges, and one is not necessarily better than the other. AA210 is silent and thus alone to deal with his difficulties, and this may be the reality of many people with impairments today and in the past.

One final task of this thesis is to make suggestions for future research. One avenue is to explore further the relationship between impairment and diet in the Roman world. Diet is an indicator obtainable from skeletal remains which can be argued to be socially constructed. People in the Roman period were not necessarily restricted to food that they can directly procure, meaning differential diet is the result of other factors such as affordability. This would require a large sample size in order to begin to assess this relationship. As seen from modern surveys, having a disability does not automatically mean a restriction in diet, but there is an increased probability of financial issues resulting in a restricted diet. If one equates different levels of marine dietary component to be the likely result of differential accessibility to items like garum, one can question whether people with impairments are more or less likely to have this additional aspect of diet. Finally, I advocate the use of the bottom-up approach to studying the dis/ability continuums in

different contexts. The accumulation of the different studies from different Roman British locales could gradually help us understand the similarities and differences in the contexts and enable us to understand the positives and limitations of larger scale studies. Disability studies is a useful feature to explore as it is universal to all societies. I advocate for the use of different narrative styles, particularly in the field of dis/ability studies in the past, but also more broadly, to help improve the accessibility of our field and keep our subject relevant to the public.

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