# ALKALINE HYDROLYSIS:
# THE FUTURE OF BRITISH DEATH-STYLES

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# ABSTRACT

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This research traces funerary change in a rapidly changing social world and principally concerns the introduction of alkaline hydrolysis (AH) as a new funerary custom in the United Kingdom (UK). It is the first full study of AH in the British context, completed in early 2023, on the cusp of AH's introduction for the first time in the UK. Framed by the global climate crisis, the thesis considers the historical, sociocultural, and worldview context of contemporary Britain in order to assess how British death-styles may soon shift to become more sustainable in line with sustainable lifestyles. The thesis traces funerary change over the last three centuries in the UK, considers how funerary activities fit within the environmental discourse, and assesses how British worldviews influence choice of funeral. Presenting findings from currently unique fieldwork in the USA, the research examines how AH may be offered as a funerary option in the contemporary British context. By considering the levels of British popular awareness of funerary innovations, including practices associated with funerary 'waste' and the availability of different funerary options, the research proposes how better public education of funerary innovations may occur. Ultimately, the thesis argues that life- and death-styles are increasingly aligning in the contemporary British context, framed by contemporary environmental concern and the influence of personal worldview. The research argues that contemporary British funerary choices are dictated by a diverse range of considerations and thus religious worldviews can no longer be described as overarchingly having the most permeating influence on British funerary choices. As such, as an environmental alternative to contemporary burial and cremation practices, the research argues that AH is likely to be adopted in the UK as an environmental and economical form of body disposal, primarily by those who currently choose cremation for non-religious reasons.

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# INTRODUCTION

This research traces funerary change in a rapidly changing social world and principally concerns the introduction of alkaline hydrolysis (AH) as a new funerary custom in the United Kingdom (UK). AH[1] is a sustainable method of dead body disposal that uses a heated alkali-water solution to chemically reduce the body to organic matter. Known colloquially by terms including 'resomation', 'aquamation', and 'water cremation', AH is expected to be introduced in the UK for the first time in 2023. The study of this imminent funerary innovation is contextualised by the documentation of a history of changing funerary trends over the last three centuries in Britain. The research describes and analyses these dramatic social changes by attending to prevalent socio-political concerns in relation to funerary activities, discussing the influence of personal 'worldview' in decisions regarding funerary choices, and considering how the British public understand what funerary practices involve. Crucially, this research was conducted before AH was introduced as a funerary option in the UK and it therefore documents an emergent historical account of this funerary change which will be foundational for all works that follow it.

The thesis begins by mapping the contemporary British 'deathscape',[2] describing the sociocultural and historical changes within British society that led to the shift in normative funerary practice from burial to cremation over the course of the nineteenth and twentieth centuries, the introduction of natural-woodland burial in the late-twentieth century, and the imminent introduction of AH in the twenty-first century. The primary focus of the research concerns the influence of the global climate crisis on changing normative funerary practices in contemporary Britain. Hence, the thesis defines contemporary British funerary practices alongside their associated environmental impact to determine how they fit within the environmental discourse. To frame the British context, the thesis then considers the influence of popular 'worldviews'[3] on choice of funerary practices. Subsequently, AH is speculatively set within the contemporary British 'deathscape' to consider its compatibility with prevalent British 'worldviews' and normative funerary rituals. To provide further depth on how AH may be popularised in the British context, insights are then drawn from fieldwork undertaken in the United States of America (USA), where AH has been a functioning funerary practice in some states for over a decade, to provide vital comparative analysis of the USA and UK contexts. Based partly on insights gained in the field, the research finally explores British popular awareness and education of funerary practices, considering popular responses to practices associated with funerary 'waste'[4] and more broadly discussing different means by which the British public may be educated on funerary practices, focusing on public-industry engagements and the influence of popular media.

The research documents a rapidly developing British funerary innovation and cannot explore the early adoption of the innovation in the UK because its popular uptake is yet to be seen. It therefore focuses on funeral industry insights, the worldview landscape of contemporary Britain, and prevalent socio-political concerns in relation to environmental funerary innovations to inform its analysis, rather than direct interaction with members of the British public concerning their opinions. The research makes a significant contribution to the emergent field of

[1] A detailed description of what the alkaline hydrolysis process involves is provided in Chapter 1.
[2] See pages 3 and 4 for a definition of 'deathscape'.
[3] See pages 8 to 10 for a definition of 'worldviews'.
[4] This issue is defined and explored extensively in Chapter 5.

'death studies'[5] by documenting the first full account of AH in the UK and currently unique fieldwork in the USA. Indeed, the historically significant documentation of the early experiences of those seeking to install AH systems in the USA is important for a fuller picture. Beyond this thesis, future research should focus on the practical experiences associated with the offering of AH in the British context, drawing on the experiences of the bereaved, funeral directors, and other funeral industry professionals in the organisation of and involvement in a funeral with AH. The underlying argument of this thesis is that as British lifestyles become more sustainable as the global climate crisis continues to heighten, British 'death-styles'[6] will correspondingly shift to become more sustainable. As this research shows, cremation is contemporarily the dominant British death-style, but it is not a sustainable funerary practice. Contrastingly, AH *is* a sustainable funerary practice that has generally been commercially framed as an environmental alternative to cremation, largely due to the practical similarities of the processes. This research argues that cremation is largely embraced by most Britons as a practical and economical funerary choice, covering some 80 percent of UK funerals. Accordingly, given the overwhelming dominance of cremation in the contemporary British context and the similarities between cremation and AH, this thesis argues that AH is likely to be adopted in the UK by those who presently choose cremation for reasons that are not motivated by primarily religious influences. Hence, with appropriate popular education, AH is likely to be adopted by Britons as both an environmental and economical form of body disposal and is expected to take a share of UK cremations.

## LOCATING THE RESEARCH

In order to do justice to the complexity of the issues discussed throughout this thesis, it is interdisciplinary in nature and also reflects a mixed methods approach. The research draws from the disciplines of theology, history, anthropology, and the sociology of religion to describe and analyse individual and corporate beliefs, values, and emotions concerning contemporary issues relating to life, death, and funerals. This requires a distinctive engagement of theological ideas with a variety of current 'worldviews' especially as the practice of AH is introduced into British society for the first time, and this assumes primacy of place in the research. Despite drawing from the multiple disciplines listed, the thesis is by no means a 'typical' thesis of any of these disciplines. Elements of the thesis will fall strictly into one particular discipline and other components will be much more blended in their approach, broadly categorised as set within the field of 'death studies' or 'thanatology'. It must be noted that the emergent notion of the field of 'death studies' is one that can be debated, but what is certain is that a number of disciplines have taken up issues relating to death, dying and bereavement, therefore making an interdisciplinary approach to the study of such issues possible, which may be collectively defined as 'death studies'. Broadly defined, then, 'death studies' is an interdisciplinary field 'shared by a variety of academic and healthcare professionals across many formal disciplines, from the arts and humanities, through the social sciences, to more medical and service-user points of contact' (Davies 2017, p. 2).

As already noted, this research is the first of its kind, involving transatlantic fieldwork and is the first full study of AH in the UK. The research concerns a funerary innovation that has not been introduced in the UK at the time of its completion, meaning that some of its findings are naturally speculative. Nonetheless, as the first full study of AH, the depth of research required to facilitate the analytical account presented in this thesis was extensive.

[5] See page 2 for a definition of 'death studies'.
[6] See pages 3 and 4 for a definition of 'death-styles'.

The research involved extensive first-hand empirical fieldwork at multiple sites in both the USA and UK funerary contexts, engaging with funeral directors, crematorium workers, equipment manufacturers, professional bodies, corporate sales managers, and business executives. The fieldwork uniquely facilitated the analytical application of findings from the USA context to the emergent status of AH in the British context. The study employed archival research methods using both online and offline sources, including the archives of the Cremation Society of Great Britain, the archives of the Federation of Burial and Cremation Authorities, newspaper archives, legal documentation, and funeral industry websites. To complement the research's empirical fieldwork, in-depth literature reviews were conducted which scrutinised historical, anthropological, sociological, theological, and marketing sources relating to the field of death studies, environmentalism, consumerism, and worldview studies. The scrutiny of both qualitative and quantitative research findings was central to much of this research's analysis, drawing from both independently employed and externally sourced empirical research. Furthermore, the research engaged in content analyses of digital mediums, newspaper archives and marketing materials, alongside extensive legislative analysis of UK and USA funerary laws. Hence, the research used an eclectic methodology, drawing from a variety of sources. The use of an eclectic methodology is noted here to suitably preface the thesis and its approach, facilitating the development of the most in depth account of AH to date.

## *DEATH-STYLES, DEATHSCAPES, AND THE WIDER FIELD OF DEATH STUDIES*

At the outset, it is necessary to lay this thesis's foundations within the field of death studies and to define the key theoretical concepts that underpin the research. The primary theoretical concept framing the analysis within this thesis is that of 'death-style'. Davies introduces his *Mors Britannica* volume by defining his intention to ask 'how the lifestyles of particular groups correlate with what we identify as death-styles' (Davies 2015, p. 1). This very same question underpins the basis of this thesis. The concept of 'death-style',[7] as coined by Davies (2005a; 2012; 2015), is therefore foundational to the analysis that follows, tracing funerary change in the rapidly changing social context of contemporary Britain. Davies frames the notion of 'death-style' by thinking of 'styles' as 'expressing aspects of social force in the power of custom, tradition, or, indeed, of innovation' (Davies 2015, p. 317). Here, and throughout this research, 'death-style' refers to the manifestation of a particular group or individual's form of funerary ritual. Hence, 'death-styles' can be individual or collective. When broadly referring to the death-styles evident in the contemporary British context – currently *forms* of burial and cremation practices – this thesis uses the concept of 'deathscape' as shorthand. The concept of 'deathscapes' has been particularly significant in the discipline of geography, first 'set out'[8] by Kong (1999) and employed by other geographers including Teather (1998) and Hartig and Dunn (1998). It was popularised in the interdisciplinary field of death studies by Maddrell and Sidaway's (2010b) edited volume *Deathscapes: Spaces for Death, Dying, Mourning and Remembrance*. The edited volume brought together authors from multiple disciplines, including geography, sociology, and history, all broadly working in the field of death studies. Maddrell and Sidaway take Kong's concept of 'deathscapes' and 'adapt' the 'broad heading' to:

> '[I]nvoke both the places associated with death and for the dead, and how these are imbued with meanings and associations: the site of a funeral, and the places of final disposition and remembrance,

[7] Davies notes that 'convention insists that I write of death-style and not deathstyle parallel to lifestyle' (Davies 2015, p. 1) and so I continue with this convention in the thesis, following Oxford University Press's convention in the titling of the book.
[8] As stipulated by Maddrell and Sidaway (2010a, p. 4).

> and representations of all these. Not only are those places emotionally fraught, they are frequently the subjects of social contest and power; whilst sometimes being deeply personal, they can also often be places where the personal and the public intersect. Deathscapes thereby intersect and interact with other moments and topographies, including those of sovereignty (sovereignty-scapes), memory (memory-scapes) and work, life and beauty (landscapes).'
>
> (Maddrell and Sidaway 2010a, pp. 4-5)

Contextualised by Maddrell and Sidaway's definition, this thesis uses the term 'deathscape' in the more literal sense of 'death' '-scape' akin to 'landscape', with '-scape' used as a suffix to mean 'view' or 'representation' of, to define the overall representation of contemporary British death-styles. Contemporarily, the British deathscape can be described as including varieties of burial and cremation practices, which take form as British 'death-styles'. To reiterate, while the British deathscape currently broadly encompasses the body disposal practices of burial and cremation, the term 'death-style' refers to the variety of ritual practices associated with these disposal methods. In this way, the British 'deathscape' broadly embodies the diversity of British 'death-styles'.

This thesis makes a significant contribution to the field of death studies by documenting an analytical account of AH as a funerary innovation in the contemporary British context for the first time. In framing this research within the field of death studies, it is necessary to highlight the significant works that have preceded the research and stipulate what the thesis does not do. As already noted, much of the scholarly work that falls *within* the field of death studies is not necessarily explicitly defined by scholars in this way, rather various disciplinary approaches have been taken to study issues relating to death studies. Three main branches of death studies can be defined as laying the foundations that contextualise the theoretical makeup of this thesis: (i) socio-psychological approaches; (ii) cultural-historical approaches; and (iii) religious-theological approaches. The academic context of each of these approaches within death studies is now briefly outlined to appropriately situate the approach of this research.

Much of the scholarly literature in the field of death studies has traditionally concerned sociocultural and historical understandings of death and dying, and processes of bereavement, grief, and mourning. Extensive research has been undertaken attending to the latter aspect of the traditional occupation of death studies. Such works have primarily been drawn from the discipline of psychology but have also been drawn from the disciplines of sociology and anthropology. Concerning issues surrounding processes of bereavement, grief, and mourning, psychological approaches have largely been influenced by the works of: Freud (1917 [1915]), Bowlby (1969, 1973, 1980), Stroebe and Stroebe (1987), and Parkes (2006) on grief theories in relation to the notion of attachment and loss; Kübler-Ross (1969) on stage theories of grief; and Klass, Silverman, and Nickman (1996) and Klass and Steffen (2018) on grief theories in relation to the notion of continuing bonds. Moreover, anthropological and sociological approaches to such issues have been influenced by the works of Gorer (1965), Walter (1996), and Davies (2020). This thesis does not seek to add to the extensive and comprehensive accounts of such key issues concerning the nature of loss in death studies that have preceded this work but acknowledges their significance in framing it.

Furthermore, while this research is not focused on issues relating to the process of dying or necessarily how death is 'understood' in contemporary Britain, its insights are grounded in the vast existing research on these matters. The works of Ariès (1974, 1981 [1977]) take a historical approach, documenting changing understandings and attitudes towards death from the Middle Ages through to the early twentieth century in Western society. Ariès's work has not directly influenced this research, with its scope stretching far beyond the primary focus of this thesis,

but his work has been deeply influential in laying the historical-theoretical context of the field of death studies by scoping understandings of death in different 'ages'. Indeed, Ariès explicitly states that his *The Hour of Death* contributes his 'voice to the large chorus of "thanatologists"' (Ariès 1981 [1977], p. xvi). The works of Walter (1994) and Kellehear (2007) mimic Ariès's categorisation of ages to frame their analyses of changing understandings of mortality, but take a more sociological approach to their research and ground their studies in contemporary settings. Bauman's (1992) sociologically influential work is notable for the ways in which it scrutinises contemporary understandings of mortality. The works of Walter (1994), Davies (2005a), Howarth (2007), Kellehear (2007), and Lofland (2019 [1978]) provide particularly detailed sociological and anthropological accounts of the development of contemporary understandings of a variety of issues concerning end of life practices, death, and funerals. Moreover, the works of Mims (1999), Iserson (1994), and Cantor (2010) take a very pragmatic approach in detailing different attitudes towards death, dying, and the dead body, with chapters concerning over forty key issues regarding death between them, from 'I'm Dead – Now What?' (Iserson 1994) to 'The Legal Status of the Postliving' (Cantor 2010) and 'The Afterlife and the Future of Corpse Disposal' (Mims 1999). All of these works provide a detailed overview of changing understandings of death, dying, and body disposal in recent history. In line with such works, this research analyses how British death-styles are shifting in accordance with a variety of British worldviews, primarily driven by contemporary environmental concerns.

For a cultural-historical overview of contemporary understandings of death and dying, and well documented histories framing funerary practices in their sociocultural and historical settings, the works of Ariès (1974, 1981 [1977]), Kellehear (2007), Rugg (2013), Laqueur (2015), Rugg and Parsons (2018), Sloane (2018), and Frisby (2019) are all notable. The works of Ariès and Kellehear have already been expounded, but the works of the other scholars noted here provide detailed histories of culturally shifting funerary traditions. Laqueur (2015) provides perhaps the most extensive historical account of the treatment of the dead in Western Europe and North America – and, most attentively, in England – to date. Rugg and Parsons (2018) frame the context of England and Wales, detailing historical, legal, religious, and sociocultural issues relating to funerary practices from the eighteenth century through to the twenty-first century. Sloane's (2018) account focuses on the contemporary USA context and documents sociocultural shifts alongside concurrent shifts in funerary practice from the nineteenth century through to the twenty-first century. Furthermore, significant works have been undertaken mapping the history and sociocultural nuances of modern cremation in contemporary Britain. The works of Davies (1990), Prothero (2001),[9] Parsons (2005), Davies and Mates (2005), Grainger (2005), Jupp (2006), Laqueur (2015), and Jupp et al. (2017) provide far more detailed accounts of the development of the innovation of cremation than is possible within this thesis and therefore ground its analysis. Jupp's (2006) *From Dust to Ashes: Cremation and the British Way of Death* was particularly influential for the account of the shift in normative death-style from burial to cremation in the UK documented in Chapter 1. Likewise, Davies and Mates's (2005) *Encyclopedia of Cremation* is an invaluable resource for anyone seeking to understand the phenomenon of cremation. Regarding worldview influences on funerary ritual, suffice to acknowledge the works of Bowker (1991), Garces-Foley (2006), and Parkes, Laungani, and Young (2015). In *The Meanings of Death*, Bowker discusses the 'origins' of death in five[10] of the seven worldviews considered in this thesis in depth. Likewise, Garces-Foley's edited collection *Death and*

[9] Prothero's work focuses on the American context, which is contextually significant for Chapter 4, but also comments on the British cremationist movement.
[10] Judaism, Christianity, Islam, Hinduism, and Buddhism.

*Religion in a Changing World* and Parkes, Laungani, and Young's edited collection *Death and Bereavement Across Cultures* provide great depth on various cultural and religious funerary rituals and their meanings.

Finally, this thesis has been heavily influenced by recent research on funerary innovations, including the works of: Clayden et al. (2010), Clayden et al. (2015), Rumble (2010), and Davies and Rumble (2012) on the innovation of natural-woodland burial; and Olson (2014, 2016a, 2016b), Rumble et al. (2014), Davies (2015), Troyer (2016, 2020), Canning, Swmigin, and Vaessen (2016), Rumble (2019), Woodthorpe et al. (2021), and Arnold et al. (2023) on the innovation of alkaline hydrolysis and other contemporary funerary innovations. This research uses these key works as the foundational basis from which it evolves. Indeed, Sloane's description of five cultural shifts that he notes from the 1950s through the 2000s in the USA are relevant to contextualise where this thesis picks up, albeit this research is framed by developments within the contemporary British sociocultural context:

> '(1) trends in religious faith and secularization, as represented by declining institutional affiliation contrasted with a deepening of religious orthodoxy; (2) changing ideas of dying, as seen by Elisabeth Kübler-Ross's works on death and dying in the 1960s; (3) the rise of an environmental sensibility, culminating in the first Earth Day on April 22, 1970; (4) popular recognition of DIY (Do-It-Yourself) public mourning, signaled by Maya Lin's Vietnam Veterans Memorial (1982) and Cleve Jones's AIDS Memorial Quilt (1985); and, finally, (5) the emergence of digital media, suggested by the almost immediate establishment of one of the first virtual cemeteries, the World Wide Cemetery, in 1995.'
>
> (Sloane 2018, p. 12)

All of the cultural shifts noted by Sloane are relevant to this thesis, despite the fact that Sloane's research concerns the USA context, but most pressing are (1) and (3): trends in religious faith and secularisation; and the rise of an environmental sensibility. The following two sections frame the intellectual and practical significance of these two influencing factors on changing normative funerary practices in contemporary Britain, both of which are central to this thesis's argument.

### *ECOLOGY AND ENVIRONMENTALISM*

The issues surrounding and the influence of ecology and environmentalism on contemporary thought are foundational to this thesis. Inspired by Kellehear's division of 'ages' in his *A Social History of Dying* (2007), I situate this research within the 'ecological age'. Issues surrounding the impact of climate change have filled the scientific narrative for decades, but these issues now permeate the everyday lives of the global population. The influence of ecological-environmental concern is increasing. Certainly, during the course of my lifetime, from my birth in the mid-late 1990s to the completion of this thesis in the early 2020s, these issues have dramatically increased in significance and the urgency to act to 'save our environment' has been globally acknowledged in governmental policy.

Not only do ecological-environmental concerns impact upon the way we live, but they also increasingly impact upon the way we die, and, in the case of this thesis, the ways in which the dead human body is 'disposed' of. As Davies notes, 'environmental and ecological themes became important as the closing decades of the twentieth century began to be influenced by people's sense of different environmental locations for human remains' (Davies 2015, p. 115). This remains true, and their influence is only continuing to grow in significance as the twenty-first

century progresses. There seems to be an emerging 'ecological frame of identity' that 'produces its own form of secular eschatology […] as it expresses concern for the future of the planet' (Davies 2005a, pp. 79-80). Davies argues, as I do in this thesis, that this 'outlook may well […] turn against cremation on the basis of its gas production' and additional environmental impacts (Davies 2005a, p. 80). As such, funerals may now echo 'a retrospective fulfilment of identity if people also see [funerals] as reflecting the way a person had lived' because 'their life values of ecology' can be reflected 'in their death-values' (Davies 2005a, p. 80). A very recently published edited collection entitled *The Sustainable Dead: Searching for the Intolerable* (McManus 2023), in which a chapter of mine is featured (Robinson 2023), emphasises the need for the contemporary influence of ecology and environmentalism to act as principal theoretical background for this thesis. The relevance and significance of ecology and environmentalism on changing funerary practices is outlined in Chapter 2.

As explored further in Chapter 2, concern regarding the sustainability of body disposal practices has long been recognised in some capacity, but the twenty-first century has seen this concern grow rapidly. While issues surrounding the economy of space (Laqueur 2015, p. 520) have long supported the advocacy of cremation over burial, the 1990s saw the sustainability of cremation contended and the emissions from crematoria regulated for the first time.[11] Framed by this background, alternative disposal technologies to conventional burial and cremation have been developed in recent years. As discussed in Chapter 1, the innovation of natural-woodland burial emerged as a formalised funerary option in the UK in the early-mid 1990s. Natural-woodland burial did not require the development of any 'new' technology but did change established burial convention. The engineered disposal technologies of AH and NOR (natural organic reduction – colloquially known as 'human composting') emerged as formalised funerary options in the USA in the early 2010s and early 2020s respectively. With the existence of these emergent funerary practices, issues of ecology and environmentalism are increasingly becoming a focal topic within death studies. Nonetheless, Walter argues that 'with some very rare exceptions […] the climate/ecological crisis has yet to feature in death studies' (Walter 2022, p. 1). As already indicated, Davies innovatively discusses the influence of ecology on informing funerary ritual in his *A Brief History of Death* (2005a). Moreover, MacMurray and Futrell propose a typology of the narratives adopted by what they term 'Ecological Death Advocates', defined as 'an eclectic group of death reformers who specifically press for environmentally sensitive ways to manage death that include "green" or "natural burial," "conservation burial," "green funerals," and "green cremation"' (MacMurray and Futrell 2021, p. 860). The previous section concerning 'Death Studies' noted prominent scholarly literature on the innovation of natural-woodland burial, AH and other funerary innovations, but I further note the work of Canning and Szmigin (2010), which poses 'death and disposal' as the 'universal, environmental dilemma'. Canning and Szmigin, acknowledging the importance of the influence of culture and worldview on informing funerary choice, underline the fundamental necessity to engage with ecological-environmental issues in relation to the disposal of the dead body:

> 'The future may offer more [disposal] choices that reduce the impact on land usage and pollution, but this [corpse disposal] is one cultural and environmental issue that will continue to be a dilemma for humankind. To address the problems posed by disposal, the first step is for us all to have a better understanding of alternative disposal choices and their environmental consequences. While not wanting to trivialise the religious and emotional significance of disposal practices, such an accumulation of

[11] See: The Environmental Protection Act (1990) and DEFRA's (2003) consultation on mercury emissions from crematoria.

> knowledge and understanding of the effect of our decisions on the natural environment has been seen to impact on consumer behaviour in other areas. It is only once consumers have the knowledge to make informed choices that innovative solutions that challenge traditional practices associated with disposal may be considered.'
>
> (Canning and Szmigin 2010, p. 1139)

Writing in 2010, Canning and Szmigin were not alert to the possibility of AH because it was not yet commercially available anywhere in the world, but they highlight the need for public education of and exposure to the environmental impacts of different funerary practices, and the need for the availability of sustainable corpse disposal practices. This is precisely what this thesis stresses, particularly in Chapters 2, 5 and 6. Moreover, Walter importantly argues that while proponents of new disposal technologies 'emphasise their benign effects on the physical environment, the major effect may prove to be on social attitudes' and therefore such technologies 'may well prompt western publics to think differently about not only the environment but also death' (Walter 2017, p. 80). In this way, the very issues of ecology and environmentalism may reframe and inform how people think about funerary practices. Hence, set against this context, this thesis questions how normative funerary practices in contemporary Britain may change in response to the global climate crisis.

## *WORLDVIEWS*

In terms of the sociology of religion, this research principally concerns itself with the study of British 'worldviews' in relation to British death-styles. In doing so, it considers how the changing British 'worldview' landscape has been reflected in changing funerary rituals. In this regard, the research theoretically grounds itself in the emergent discipline of 'worldview studies' together with the field of death studies. The emergent 'worldview studies' framework is particularly important for framing the analysis in Chapter 3.

'Worldview' studies is a rapidly expanding framework that is being adopted by those who may have previously been described as 'religious studies' scholars (Droogers and Harskamp 2014b; Davies 2022). Census data will be attended to in detail in Chapter 3, but the most recent Census data exemplify the variety of contemporary British 'worldviews' and the reason, therefore, for extending this thesis's scope beyond religious studies. Given that 37.2 percent of the population of England and Wales identify with 'no religion' (Office for National Statistics 2022), this research would not be representative if it only considered religious beliefs. Accordingly, the thesis considers both the religious and non-religious 'worldviews' that are most widely accounted for in the contemporary British context and their mainstream death-styles. Smart notes that '[t]he English language does not have a term to refer to both traditional religions and ideologies' and therefore 'the best expression is perhaps "worldviews"' (Smart 1995, p. 2). Smart eminently proposed that the philosophy of religion ought to be 'aimed at a wider range' and 'be extended to be the philosophy of worldviews' (Smart 1981, p. 224). Smart defined the scope of studying 'worldviews' by describing the 'philosophy of worldviews' as:

> 'the upper story of a building which has its middle floor the comparative and historical analysis of religions and ideologies, and as a ground floor the phenomenology not just of religious experience and action but of the symbolic life of man as a whole.'
>
> (Smart 1981, p. 224)

The shift from the study of 'religion' to the study of 'worldviews' has been increasingly adopted in academic settings, including in British primary and secondary school education. In the education setting, this shift was spurred by findings compiled by the Commission on Religious Education. In 2018, the Commission published its final report *Religion and Worldviews: The Way Forward*, in which the Commission proposed that the school subject of 'Religious Education' should be redefined and called 'Religion and Worldviews' to enable the 'study of religious and non-religious worldviews as well as broader social changes in England and globally' (Commission on Religious Education 2018, p. 3). In academic settings, the study of 'worldviews' has been deeply influenced by the works of Droogers and Harskamp (2014b) and Davies (2022). In their methodologically influential book, *Methods for the Study of Religious Change: From Religious Studies to Worldview Studies* (2014b), Droogers and Harskamp reframe the study of religion as worldview studies, stating that they: 'take religion to be a sub-category of the term worldview, by which we mean that religion needs to be viewed as part of a larger field in which people struggle for and with meaning' (Droogers and Harskamp 2014a, p. 2). Droogers cites the contemporary 'variety in worldviews' as a reason for necessitating this shift, which is relevant in its application to the analysis of the contemporary British worldview landscape documented within this thesis (Droogers 2014, p. 14). Droogers defines 'worldviews' in the following way:

> 'Worldviews can be said to derive from the human capacity to seek answers to basic aesthetic, ethical, ontological, epistemological and identity questions. Worldviews are also the set of ritual, experiential, mythic, doctrinal, ethical, institutional and material dimensions that together provide answers to the questions that human beings raise. This definition of the concept does not include any reference to the sacred or the divine. Thus the common characteristics of religious and non-religious worldviews can be emphasized.'
>
> (Droogers 2014, p. 24)

Davies has also adopted the 'worldview studies' framework. In 2019, Davies reworked his introductory undergraduate module at Durham University entitled 'Study of Religion' to become 'Worldview, Faith, and Identity', the first module of its kind in the British academic context. Davies defines an eight-fold typology of worldviews that 'seeks to encompass the enormity of groups, movements, and processes, whether primarily religious, secular, or mixed, that flood the history of the world' (Davies 2022, p. 51). The eight 'types' of worldview defined by Davies are: natural; scientific; ancestral; karmic; prophetic-sectarian; mystical; ideological; and ludic (Davies 2022, p. 53). Davies notes that these are 'presented as distinct ideal types' and 'worldviews sometimes morph from one to another over time' (Davies 2022, p. 58). In his *Worldview Religious Studies* (2022), Davies defines 'worldviews' more broadly in the following way:

> 'Worldviews are shared perspectives on life that emerge as the human drive for meaning creates patterns of values, beliefs, and behaviours in response to natural and existential environments. They intensify everyday life experiences through ritual-symbolic events that foster identity and creative living, integrate individuals within society, inform mind-sets and lifestyles, and help people confront and transcend life's besetting problems, especially death.'
>
> (Davies 2022, p. 3)

Droogers and Harskamp's (2014b) and Davies's (2022) framing of 'worldview studies' have deeply influenced this thesis and its approach, adopting the conceptual framework of 'worldview studies' rather than 'religious studies'. In adopting the 'worldview' framework, this thesis does not delve into the complexities concerning how terms such as 'religion', 'belief', 'faith', 'identity' and so on are defined because this has long been debated in the study of religion. Indeed, as Guest notes, 'many textbooks in the sociology of religion devote a significant amount of space to debates about the definition of religion' (Guest 2022, p. 131). The concept of 'worldview' that underpins the analysis in this research embraces religious, secular, spiritual, and ideological values (Droogers 2014, p. 18; Davies 2022, p. 5). Against the background of the previous section concerning ecology and environmentalism, Davies argues that ecology and environmentalism are 'fast becoming a worldview' of their 'own' (Davies 2022, p. 4). Funerary choice is undoubtedly influenced by one's worldview and very sense of 'self', tied up with emotional dynamics. As such, the disposal of the dead body is often 'emotionally […] imbued with meanings […] related to the deceased individual' (Baker, Baker, and Gentry 2016, p. 213). As Davies argues, 'death-related events become windows opening upon a social world of forces that make, remake, remove, and transform people's selves' (Davies 2015, p. 7). Hence, set against this theoretical background, this thesis considers the influence of worldview on British death-styles and specifically questions *how* British worldviews influence normative British funerary practices.

### *RITUAL-TECHNOLOGICAL INNOVATION AND SOCIOCULTURAL CHANGE*

This thesis finds itself, perhaps oddly, situated within the realms of both ritual and technological innovation, and is defined by the opportunities afforded for ritual-technological innovation by sociocultural change. Indeed, referring to the prospect of a 'compostorium', Mims argues that it 'is not surprising that in an environment-conscious age there have been suggestions that the natural process of decomposition be encouraged and accelerated' (Mims 1999, p. 188). While Mims refers to late-nineteenth century proposals, in the contemporary context, influenced by sociocultural change but facilitated by technological innovation, Mims's suggestion that the 'technology now exists for building an environment-friendly corpse disposal machine' has been actualised (Mims 1999, p. 189). AH is fundamentally a technological process – it is engineered, with machines manufactured by engineering companies to perform the chemical process of alkaline hydrolysis. Within Troyer's frame of reference, all funerary practices are technological innovations because 'technologies require tools and practices, so when it comes to dead body technologies, even the most nonindustrial-looking scenario (e.g., natural burial) still requires *humanly invented tools and practices*' (Troyer 2020, p. xlii). Moreover, Walter also alludes to this notion, arguing that 'the word 'natural' [used in the term 'natural burial'] should be understood symbolically rather than literally' (Walter 2017, p. 76). This is because, Walter argues, the 'only natural place for large mammals to die and decompose is on the ground, there to be eaten by bugs, flies and scavengers. Burial under the ground is not natural but cultural' (Walter 2017, pp. 76-77). Troyer's framing of all body disposal methods as technological *tools* that 'we humans use' supports my statement in Chapter 2, which argues that all contemporary funerary practices fundamentally have *an* environmental impact no matter how 'simplistic' the funeral is because all disposal practices require the use of resources. Alongside technological innovation, I argue that AH also constitutes ritual innovation precisely because its existence demands changes to funerary ritual, even if only by means of the 'back-stage' elements of funerals. Innovation requires change to be adopted. As such, key to this thesis is the question: What facilitates change? And within this broader question, one further question frames the

exploration of ideas presented within the thesis, namely: What sociocultural and political environments *enable* or *facilitate* change to occur – or, perhaps, *force* change to occur? This research argues that the climate crisis is one major influential factor driving contemporary funerary changes.

Extensive discussion could be sourced in a debate concerning the influences driving top-down versus bottom-up societal changes in contemporary Britain. Arguably, the advocacy of modern cremation in Britain was fundamentally a top-down force of social change, dictated by those within the esteemed upper class of British society. Nonetheless, its success required bottom-up forces that were not dictated by the Cremation Society of Great Britain. One possible example includes the legal trial of Dr William Price, which spurred the 'legalisation' of cremation in the UK. However, it must be acknowledged that while Price was not affiliated with the Cremation Society of Great Britain, his educational esteem and activist character were undoubtedly influential to the outcome of his trial. Contrastingly, the introduction of natural-woodland burial in the UK was the result of bottom-up drivers for change as its introduction was spurred by public requests to Ken West at Carlisle Cemetery for something *different* to that which was contemporarily offered (West 2010, 2013). Whether the introduction of AH is the result of top-down or bottom-up social change is more complicated to spell out than in the case of the innovations of modern cremation and natural-woodland burial. The reason for this is twofold. (i) While there is not an established social-pressure group lobbying the government and funeral industry leaders to bring the choice of AH to the UK, the engineers attempting to bring AH into the funeral industry are not from *within* the funeral industry. In this way, they are outsiders attempting to challenge and change the status quo within the funeral industry. Hence, for this reason, it seems implausible to label the AH innovators a top-down force because they come from *outside* of the structures of the funeral industry. Conversely, (ii) it is significant to emphasise that the AH innovators have commercial-monetary interests, alongside environmental concerns, motivating their attempts to introduce AH within the funeral industry, and therefore could be classified as top-down influencers of change.

Framing AH within the contemporary British context, some parallels must be drawn with the introduction of modern cremation. As this introductory chapter has shown, context is of fundamental importance to the issues discussed throughout this thesis because the initiation and success of innovation is contextually bound. This thesis is rooted in the context of twenty-first century Britain. As such, the sociocultural and religious-political intricacies of contemporary British life must act as the foundations of this thesis. To underline the importance of context, it is noteworthy to briefly outline the sociocultural conditions that allowed the introduction of modern cremation in Britain. For example, modern cremation may not have emerged so successfully had it not been for the Industrial Revolution in Britain and the Enlightenment period. As Laqueur notes, modern cremation 'relied on sophisticated new technology borrowed from the steel industry' and advocates claimed that it 'represent[ed] "the final triumph of reason"' (Laqueur 2015, p. 491). Stressing the importance of context, Beard and Burger similarly frame the US 'funeral industry and the "modern" or traditional funeral' as having 'emerged as a result of technological innovations that were developed during the Industrial Revolution, social events in the form of the Civil War and cultural changes brought about by structural change that was set in motion by the Industrial Revolution' (Beard and Burger 2017, p. 64). Even so, Jupp argues that cremation 'was not the obvious, natural or necessary successor to churchyard burial' in Britain but rapidly changing sociocultural conditions in Britain increasingly framed cremation as necessary. As Jupp notes, 'the increasing individualism of the age, changes in longevity and causes of death, together with new opportunities for social mobility in a welfare state, made the substitution of burial by cremation increasingly attractive' (Jupp 2006, p. 11). Yet, without the appropriate sociocultural conditions,

cremation may not have been popularised so dramatically in Britain. Jupp highlights that up to 1914, 'public response' to cremation 'was not enthusiastic' and until 1918 'cremationists' efforts were ignored', but when the mass development of land for urban housing was underway, local authorities subsequently 'accelerate[d] their efforts to promote the economical choice for cremation' (Jupp 2006, p. 97). In twenty-first century Britain, where cremation dominates as the normative British death-style, the effects of climate change now fill the narrative of concern. Perhaps flipping Jupp's argument about cremation's eligibility as a successor to churchyard burial, AH *is* the 'obvious, natural [and] necessary' successor to cremation in the 'ecological age'. Returning to the questions posed at the beginning of this section, Beard and Burger imply that change in the US funeral industry has been *the result of* 'structural, cultural, and technological changes' and so consequently, as 'more changes in the areas of technology and culture' occur, the funeral industry will *have* to change by innovating in order to 'maintain profitability and to satisfy consumer demands' (Beard and Burger 2017, p. 64). The same seems to be true in the contemporary British context, but I do not argue that this is *currently* the result of consumer driven change.

### *CULTURAL CLASSIFICATION*

At this point, it is important to stress that throughout this thesis, the issue of cultural classification will be central. This issue concerns how things are defined and understood culturally, and, in the realms of this research, considers how the concepts of burial, cremation, and other forms of body disposal are conceived and what different understandings of these concepts signify. As Howarth notes, 'it is difficult to see how [funerary] choices can be made without reference to social and cultural norms and experience' (Howarth 2007, p. 261). This thesis, in many ways, discusses funerals in contemporary Britain not merely as ritual acts but also as commodities because funerary activity must be paid for in some capacity. Yet, to talk about funerals as commodities would be inappropriate in many sociocultural contexts, and even the term 'disposal' of the body is tied up with emotional-psychological and cultural-theological responses towards that notion. As Davies notes, to 'refer to 'the disposal' of the human corpse […] is to use an odd word that makes sense for descriptive and analytical purposes but which finds little resonance in the lexicon of the bereaved or service providers' (Davies 2015, p. 104). Moreover, the notion of 'choice' in funerary ritual is not universal. Not only is the availability of 'choice' in funerary ritual bound by national contexts, including their legal frameworks, but it is also affected by sociocultural, political, religious, and economic contexts, which differ throughout the world and person-to-person. Nevertheless, as Canning and Szmigin note (2010, p. 1129), while 'cultural mores may dictate differences in disposal rites, all individuals around the world engage in this one common yet fundamental activity that is of personal, emotional, social, and environmental significance', that is, the disposal of the dead body. Having defined the field of the research in this way, it is clear that a question posed by Sloane in his introductory chapter of *Is the Cemetery Dead?* is foundational to the analysis that follows in this thesis, namely: 'How have changing demographics, technologies and attitudes toward death and the environment created new concerns that provoke alternative rituals and actions?' (Sloane 2018, p. 18), and what does this mean for the funerary innovation of the alkaline hydrolysis of human corpses in the contemporary British context?

## ACCESSING THE FIELD

The fieldwork undertaken in Minnesota and Indiana, USA, was vital for the development of this thesis. As detailed in Chapter 4, the fieldwork enabled substantial comparative analysis of the UK and USA funerary contexts. The fieldwork required some months of planning, with initial plans drafted in November 2021 when I applied for funding for fieldwork costs. Funding was granted by Durham University's Faculty of Arts and Humanities at the end of November 2021, at which point, I could begin to comprehensively plan the fieldwork. The fieldwork was conducted in April 2022; a timeline of fieldwork activities is detailed on pages 14 and 15. The fieldwork comprised of five site visits, ten sets of interviews, and one written questionnaire response. Due to the time constraints of the fieldwork, I sought out sites in Minnesota closest to the metropolitan Twin Cities area, where most of the commercial AH systems in Minnesota are installed. The site visit to Bio-Response Solutions, Indianapolis, IN, was feasible within the timeframe of the fieldwork because Minnesota and Indiana are only a short-distance flight away from one another. I spent between a couple of hours and most of the day at each site. This section describes how my access to participants was enabled, explaining the nature of gatekeeping involved.

Much of my ability to access key information regarding the progress of AH in the UK has been facilitated by my professional relationship with Howard Pickard, Managing Director of Resomation Limited. I first met Pickard in June 2018, following the completion of my undergraduate degree in Theology and Religion at Durham University, shortly after I had first learned of AH in Professor Douglas Davies's undergraduate module entitled 'Death, Ritual, and Belief'. We met at the Cremation and Burial Communication and Education (CBCE) conference, which was my first exposure to the inner workings of the British funeral industry. During the conference, I had many conversations with Howard Pickard and Sandy Sullivan, Founder of Resomation Limited, and learned a great deal about their AH process and their ambitions in the UK. At the time, I had written an undergraduate exam question on the topic of AH, but I was very fresh to the concept. Some contact was maintained with Pickard following CBCE 2018 through his professional relationship with my primary supervisor, Professor Douglas Davies; I had been mentioned by name to Pickard by Davies because of the work of my Religion and Society Master of Arts dissertation on the topic of AH, written in 2018–2019. However, it was not until 2020 that my individual professional relationship with Pickard was cemented. Following correspondence between myself and Pickard, I first visited the Resomation factory in September 2020, just before commencing my PhD in October 2020. While this PhD has been self-funded, it is important to note that it had the potential to be a collaborative doctoral project with Resomation Limited as the project's partner organisation, through the AHRC Northern Bridge Consortium. The funding applications for the collaborative project were unsuccessful, however, a close professional relationship with Resomation Limited has since been maintained in absence of the funding from the Northern Bridge Consortium. My professional relationship with Resomation Limited, and especially Howard Pickard, has enabled unique insight into the progress of AH in the UK, site visits to the Resomation factory, and introductions to some of Resomation Limited's international clients.

My professional relationship with Pickard and Resomation Limited enabled initial access to Jason Bradshaw of Bradshaw Funeral Services and Nicki Mikolai of Resomation America, both of whom I interviewed. Mikolai offered to contact Dean Fisher, previously Director of Anatomical Services at Mayo Clinic and UCLA, on my behalf, but I was able to personally correspond with him. Fisher was responsible for the organisation of my site visits at Ballard-Sunder Funeral & Cremation and Mayo Clinic and allowing me to interview him personally.

During the site visit at Ballard-Sunder Funeral & Cremation, I conducted three interviews. Mayo Clinic's COVID-19 policies remained in place during my visit, and so consequently Fisher was only able to ask the Director of Anatomical Services at Mayo Clinic to complete a written questionnaire that he sent to them on my behalf. Fisher also arranged for me to meet and interview Terry Regnier, previously Assistant Director and then Director of Anatomical Services at Mayo Clinic, who I would likely not have been able to make contact with otherwise. Contact with Tim Koch of Metro First Call was facilitated through my correspondence with a funeral home that uses Metro First Call as a service provider. I had asked the funeral home if I could visit their premises because they advertised the offering of AH on their website. However, the funeral home replied explaining that they did not have an AH system installed on their premises and directed me to Koch, who I resultantly met and interviewed. My contact with Bio-Response Solutions began in August 2021. I had emailed Joe Wilson, Founder of Bio-Response Solutions, to ask him to clarify some details about an article he had written on the history of AH. Wilson provided further details and distributed some other literature to aid my research; in his response, Wilson said that he would be happy to talk with me about his experience with AH at any time. I closed this initial correspondence with Wilson hoping to leave his invitation to engage with me open and said that I would get back in touch at a later date to follow-up because I was still working on some background research at the time. This facilitated a very straightforward continuation of correspondence because our connection had already been established. In March 2022, I contacted Wilson again and secured a visit to the Bio-Response factory. A brief timeline of the fieldwork activities follows below.

### *FIELDWORK TIMELINE*

The fieldwork was conducted in April 2022 in Minnesota and Indiana, USA, with six active days in the field. The first day of fieldwork, Tuesday 5 April 2022, involved a site visit to the Bradshaw Funeral Services Celebration of Life Center in Stillwater, MN. Arriving early morning, I was first greeted by a member of Bradshaw staff and was then introduced to Jason Bradshaw, CEO of Bradshaw Funeral Services. Following an introductory conversation, I formally interviewed Bradshaw about his experiences with AH. After the interview, Bradshaw showed me around the Celebration of Life Center premises, and I witnessed a full AH cycle. On the second day in the field, Wednesday 6 April 2022, I met Dean Fisher, Founder of Fisher & Associates, and previously Director of Anatomical Services at Mayo Clinic and UCLA. Fisher very kindly offered to host and taxi me for two days. As Fisher owns the Resomator installed at Ballard-Sunder, he facilitated a site visit to Ballard-Sunder Funeral & Cremation Reflections Crematory in Jordan, MN. When we arrived at Ballard-Sunder Reflections Crematory, I was first introduced to Mark Ballard, Owner of Ballard-Sunder. During my time at Ballard-Sunder, I interviewed three members of staff in turn: Mark Ballard, Jaylene Telford (Funeral Director at Ballard-Sunder), and Matt DeRuiter (Funeral Director at Ballard-Sunder). Following the interviews, Ballard showed me around the Reflections Crematory premises, and I witnessed part of an AH cycle. At the conclusion of the site visit at Ballard-Sunder, Fisher drove me from Jordan to Rochester, MN, where the Mayo Clinic is located. Fisher familiarised me with the set-up of the Mayo complex in downtown Rochester as we drove through on route to Oakwood Cemetery, where the Mayo Clinic Vault is housed. Afterwards, we returned to Fisher's family home, where I formally interviewed him. On the following day, Thursday 7 April 2022, Fisher facilitated a walking tour of the Mayo Clinic complex. As already noted, because COVID-19 policies remained in place during the fieldwork period, I was unable to formally tour the Resomation facility at Mayo Clinic. Following the visit to Mayo Clinic, Fisher

and I met Terry Regnier, previously Assistant Director and then Director of Anatomical Services at Mayo Clinic, for lunch in downtown Rochester. Over lunch, Fisher and Regnier participated in a joint interview about their early experiences of AH at the Mayo Clinic. Over the course of the two days spent with Fisher, I learned a great deal about his historic and contemporary experiences with AH technology in the medical and funerary settings. On Friday 8 April 2022, I met and interviewed Nicki Mikolai, Sales Manager for Resomation America LLC, over lunch in St Paul, MN. Mikolai shared experiences both as an AH equipment expert and working funeral director. On my penultimate day in the field, Monday 11 April 2022, I travelled from Minneapolis-St Paul, MN to Indianapolis, IN to visit the team at Bio-Response Solutions. On arrival, Hannah Czerwinski (Customer Accounts Manager at Bio-Response Solutions) and Rob Graham (AH Systems Sales Manager at Bio-Response Solutions) facilitated a tour of the Bio-Response factory, showing me the variety of AH equipment engineered by Bio-Response Solutions. Shortly afterwards, I met Joe Wilson, Founder of Bio-Response Solutions, and Samantha Sieber, VP Research at Bio-Response Solutions. I then learned about Bio-Response's history with AH over lunch with Wilson, Sieber, Czerwinski and Graham. After lunch, I formally interviewed Wilson and Sieber at the Bio-Response premises. On my final day in the field, Tuesday 12 April 2022, I met Tim Koch, Owner of Metro First Call, located in Savage, MN. Shortly after my arrival on site, I witnessed the collection of reduced AH remains by a service user of Metro First Call. I then formally interviewed Koch and toured the Metro First Call premises.

The generosity of participants, both in allowing me to visit their premises and interview them and in their support to keep my fieldwork costs down by offering lifts, cannot be overstated. If participants had not so openly allowed me access to their knowledge, insights, and expertise, much of this thesis would be lacking in the detail it affords. I hope that my account of their work gives it the repute it deserves. My participants, including UK-based Sandy Sullivan and Howard Pickard of Resomation Limited, are all innovators, many of whom took a deep plunge and significant risks to enable AH to be offered as a funerary option, and they all have my utmost respect. This fact must not be forgotten as the innovation of AH spreads throughout the world as it is anticipated to do so.

## SKETCH OF THE THESIS

This thesis explores how life- and death-styles are increasingly aligning in the contemporary British context, framed within an age saturated by environmental concern and whereby religious worldviews can no longer be described as having the most permeating influence on British funerary choices. Cremation is currently the dominant British death-style, mostly embraced as an economical and practical choice. This thesis argues that AH will likely be adopted by Britons as an economical, practical, and environmental method of body disposal, largely because of AH's economic and practical similarities with cremation, coupled with its environmental credentials. Chapter 1 provides vital historical context of the contemporary British deathscape by exploring the dominant changes to British death-styles over the last three centuries. As such, it outlines the British history of the practices of traditional burial, cremation, natural-woodland burial, and AH. It lays the foundations from which the thesis evolves by analysing how shifts in British death-styles have occurred. It explains how cremation came to replace burial as the normative death-style of Britons, illustrates how the innovation of natural-woodland burial changed normative burial practices, and documents the first account of the early history of AH in the British context. Chapter 2 frames the underlying social issue driving contemporary funerary change: the global climate crisis. It shows how the issues of ecology and environmentalism influence British lifestyles and may increasingly

influence British death-styles if the environmental impacts of funerary choices are publicly educated on and advertised accordingly. The chapter analyses how environmental concern is gaining impetus and the span of such concern is extending to all consumer markets, including the British funeral industry. I argue that the conditions of the COVID-19 pandemic unintentionally emphasised the fundamental link between funerary activities and their environmental impact, but popular knowledge of the environmental impact of funerary activities remains low. With appropriately developed public education, the chapter argues that with many adopting sustainable lifestyles, times could not be more suited for the introduction of AH as an environmentally sound method of body disposal. Chapter 3 thoroughly assesses the influence of British worldviews on British death-styles. Following an in-depth consideration of how popular worldviews influence mainstream death-styles in the contemporary British context, the chapter considers how AH may align with prevalent worldviews and be adopted in the British deathscape. Chapter 4 provides an in-depth account of AH in the USA, with a particular focus on the offering of AH in Minnesota, USA. The chapter facilitates comparative analysis with the contemporary British deathscape, showing how AH may be adopted in the British context. By detailing the experiences of early adopter's investment in AH, it becomes clear that themes emerge which bare resemblance to the early history of AH in the UK – particularly with regards to gaining approvals from appropriate authorities. The chapter argues that four motivations are driving the choice of AH in the USA and these motivations are also very likely to have an influence in the UK. Chapter 5 takes a slightly more speculative approach by exploring perceived popular acceptability of practices associated with funerary 'waste'. The chapter builds on the analysis in Chapters 2, 3 and 4, drawing insights from the fieldwork conducted in the USA and analyses data concerning both current and prospective 'necro-waste' dispersal practices to explore potential popular responses to practices associated with funerary 'waste'. It particularly focuses on the language used in discourse surrounding funerary waste and considers issues relating to consent and the 'human' status of funerary waste. Drawing together insights from throughout the research, Chapter 6 considers how the British public are currently 'exposed' to funerary matters in order to understand how AH and other funerary innovations ought to be educated on. The chapter considers the contemporary role and influence of funeral industry websites and funeral planning consultations, the media, and popular culture on increasing popular awareness of funerary innovations, particularly in relation to AH and the necro-waste practices discussed in Chapter 5. Together, the chapters demonstrate how AH may soon become the future of British death-styles as both an environmental and economical method of body disposal, likely to take a share of UK cremations.

# I

# THE BRITISH DEATHSCAPE: A BRIEF HISTORY

This chapter defines the contemporary British deathscape by analysing the sociocultural underpinnings of funerary changes that have occurred over the last three centuries in Britain. These major changes facilitated the shift in normative death-style from burial to cremation over the course of the nineteenth and twentieth centuries, enabled the introduction of natural-woodland burial in the late-twentieth century, and are aiding the imminent introduction of AH in the twenty-first century. By framing the fundamental sociocultural and historical context of the British deathscape, this chapter lays the foundations from which the thesis evolves.

While 'rituals for the dead have been performed since time immemorial' (Cantor 2010, p. 91), how they have been performed, and by whom, has differed throughout time and sociocultural contexts. Over time, for example, the so-called 'custody' of the corpse has changed in the British context. Traditionally, the deceased's kin[12] were responsible for the care of the dead body. Kin would prepare the body at home and keep the body at home until the day of the funeral, when it would then be transported to the site of the funeral. Accordingly, the care of the deceased was seen as a 'community-centred activity' (Parsons 1999, p. 130). In the UK, this responsibility has now largely shifted to the care of institutions such as hospitals, hospices, care homes and, almost universally, funeral directors. This is primarily because changes in mortality rates have affected the nature of end of life care; life expectancy in the UK now averages at 79.4 years for males and 83.1 years for females (Office for National Statistics 2020b). Consequently, in the contemporary British context, most deaths occur in healthcare settings rather than in the home, as was previously typical (Mitford 1963; Howarth 1996; Davies 2015; Rugg and Parsons 2018). This shift coincided with the formation of the National Health Service (NHS) in 1948, which 'not only gave improved care to the sick, but also altered the context of dying' (Jupp 2006, p. 125). Consequently, by 1959, 'more than half of all deaths' in the UK 'took place away from the home' (Jupp 2006, p. 125). This shift aided the 'institutionalisation' of the funeral industry because the responsibility of the care of the deceased shifted from the deceased's kin to paid 'professionals'. In the UK, the 'undertaking' or 'funeral directing' profession emerged to prominence from the seventeenth century onwards, when businesses seeking to 'undertake' funeral arrangements for the bereaved were first formed (Parsons 1999, p. 128; Rugg and Parsons 2018, p. 20). Those 'undertaking' the organisation of funeral arrangements offered the provision of coffins and transportation, and were traditionally drawn from the carpentry trade (Parsons 1999, p. 128). The first trade association of funeral 'professionals', The British Undertakers' Association, now the National Association of Funeral Directors (NAFD),[13] was established in 1905. The National Society of Allied and Independent Funeral Directors (SAIF) was established in 1989. The establishment of these trade associations fostered formality within the funerary profession, now commonly known as the funeral industry.

[12] The term 'kin' is used rather than 'family' for two reasons. Firstly, while there is no legal definition of 'kin', in the UK context, one's 'kin' does not have to be a blood relative. Secondly, the use of the term 'kin' acknowledges the broad spectrum of relational makeups in the contemporary British context and, simply, that the care of the deceased may be undertaken by somebody who is not a blood relative of the deceased.

[13] The re-brand of the Association to become 'the National Association of Funeral Directors' occurred in 1935.

At the forefront of the industry, funeral directors make funeral arrangements on behalf of their 'customers', including organising the funeral service, its location and leader of service, arranging for the cremation or burial to occur, and purchasing the coffin and other memorial goods. After a death has occurred, funeral directors collect the body from the place of death, prepare and store the body, facilitate visits at their premises, and transport the body, and often kin, to the location of the funeral service. All of these elements come at a cost,[14] charged to the 'customer' by the funeral director. Funeral arrangements may have been planned in advance of death and are then enacted at the point of death, or kin make arrangements on behalf of the deceased following their death. The nature of funeral planning in the contemporary British context will be discussed more fully in Chapter 6. Now firmly established and highly utilised within British society, the funeral industry is worth over £1 billion annually, with the 'cost of dying'[15] reportedly increasing by some 39 percent over the past decade (SunLife 2021). The total annual average spend on funerals per year in the UK is nearly £2 billion (The Competition and Markets Authority 2020, p. 32) and the funeral industry's revenue was expected to reach £2.8 billion in 2021 (Petropoulos 2021). In 2022, the cost of dying was estimated to be £9,200 on average, with the average 'basic' funeral costing £3,953 (SunLife 2023). These prices have reduced slightly since 2020 but have increased since 2021 (SunLife 2021, 2022, 2023). In 2020, the cost of dying reached its highest point on record, with the average 'cost of dying' at £9,263 and the average 'basic' funeral at £4,184[16] (SunLife 2021). This reduction and recent fluctuation in the cost of dying may be the consequence of the aftermath and ongoing effects of the COVID-19 pandemic on changing normative funerary rituals, coupled with the requirement for funeral professionals to clearly publish their price lists as recently dictated by the Competition and Markets Authority (CMA), which prompted some funeral professionals to reconsider their fees.[17] The total average 'cost of dying' is a sum of: average 'basic' funeral costs at £3,953; average professional fees at £2,578; and average optional extras (or 'send-off' costs) at £2,669 (SunLife 2023). SunLife defines a 'basic' funeral as typically including the fees for disposal, doctor(s), funeral director, and celebrant or minister. This cost normatively includes the medical certificates defining the cause of death, however, the use of Cremation Form 5 (confirmatory medical certificate) was temporarily suspended during the COVID-19 pandemic. Consequently, in 2020, doctors' fees were £82 rather than £164 in England and Wales in the case of a funeral involving cremation. In Scotland, the medical certificate is free.

In terms of the regulation of conduct, funeral directors are required to abide by health and safety laws, however, the activities of funeral directors in the UK are not currently regulated by the government (Davies 2015, p. 124). Moreover, no qualifications or training are necessary in order to become a funeral director in the UK – any interested party can simply set-up shop. As Rugg and Parsons explain, funeral directing 'firms and individuals do not have to be licensed or registered or be in possession of a qualification' (Rugg and Parsons 2018, p. 57). While industry organisations including the National Association of Funeral Directors and Institute of Cemetery and Crematoria Management (ICCM) offer accredited training courses, there exists no legislative requirement for such courses to be completed by those working in the funerary profession. Most funeral directors in the UK are

[14] Some life insurance policies offer financial assistance with funeral costs; there also exists the option for pre-paid funeral plans, which an individual pays for in advance of their death.
[15] SunLife defines 'cost of dying' as 'the total cost of a person's send-off – including professional fees, the funeral service, and optional extras' (SunLife 2023).
[16] This cost excludes professional fees and 'added extras', such as flowers, order of service sheets, memorials, limousine hire, and catering – referred to by SunLife as 'send-off' costs.
[17] The effects of the COVID-19 pandemic and CMA's investigation of the British funeral industry are discussed in Chapter 2 and Chapter 6 respectively.

members of trade associations,[18] however membership of a trade association is not obligatory. Trade associations set codes of practice regarding conduct and service standards to which funeral directors voluntarily agree. While trade associations have the power to discipline members who do not abide by their code of practice, such disciplinary action does 'not prevent an organisation from continuing to operate' (Rugg and Parsons 2018, p. 57). Hence, the British funeral industry essentially self-regulates. However, there is momentum driving the introduction of formalised regulation of the British funeral industry.

Despite an almost universal use of their services, funeral directors need not be used to organise a funeral in the British context. It is both practically possible and legal to arrange a funeral without a funeral director and have what may be termed a 'do-it-yourself' or 'direct-it-yourself' (DIY) funeral. The popularity of such arrangements is increasing, suggesting that some members of the British population may seek a return to the 'traditional' family-orientated custody of the corpse. Organisations such as The Natural Death Centre[19] and The Good Funeral Guide[20] offer free advice to individuals seeking to make funeral arrangements without the help of a funeral director. For example, Charles Cowling, founder of The Good Funeral Guide, published *The Good Funeral Guide: Everything you need to know – Everything you need to do* in 2010. In the book, Cowling guides the 'consumer' through various decisions that need to be made in the event of death, including the choice of burial or cremation, decisions about the care of the body, who will lead the funeral service, and so on. There are three 'decision time' features in the book ('burial or cremation?'; 'caring for the body'; 'buy only what you want'), listing options with checkboxes and write-in sections for the reader to note their funerary preferences, aiding the decision-making process. The final eight pages of the book feature an interactive end of life 'to-do list (to-die list)' to assist readers in making their own end of life plans. Such resources seek to arm the funeral consumer with competency of the workings of the funeral industry. Nonetheless, despite such efforts to increase popular competency of the funeral industry, the majority of funerals arranged in the UK employ the use of a funeral director, and the funeral industry functions in a business manner involving service providers and service users. The 'service providers' of the funeral industry are funeral directors, celebrants, ministers, coffin manufacturers, crematoria managers, burial site managers, florists, etc. The 'service users' of the funeral industry are members of the public seeking to arrange a funeral. In the contemporary British context, then, the funeral director is in essence a salesperson, providing options for the, often bereaved, consumer to purchase and then arranging for the purchased options to occur at the appropriate time. The nature of the funeral industry in the contemporary British context will be an important consideration throughout this thesis.

In order to comprehend how AH may become implemented and normalised within the British deathscape, it is first necessary to explore the history of funerary practices in the British context. Accordingly, this chapter explores the histories of the options currently available at the end of life in the UK, namely, 'traditional' burial, cremation, and 'natural' or 'woodland' burial. Finally, having mapped the history of contemporary funerary practices in the British deathscape, the chapter comprehensively explores the contemporarily developing history of AH in the UK.

[18] The NAFD (see: https://nafd.org.uk/) and SAIF (see: https://saif.org.uk/) are the two main trade associations for funeral directors working in the UK.
[19] The Natural Death Centre was established in 1991. It self-defines as 'a social, entrepreneurial, educational charity that gives free, impartial advice on all aspects of dying, bereavement and consumer rights.' (The Natural Death Centre n.d.).
[20] The Good Funeral Guide was established in 2008. It self-defines as 'a not-for-profit social enterprise company […] wholly independent of the funeral industry and dedicated to supporting, empowering and representing the interests of dying people in the UK.' (The Good Fuenral Guide n.d.).

## TRADITIONAL BURIAL

'Traditional'[21] burial has been the longstanding method of dead body disposal in the UK and it has 'always been permissible at common law' (Conway 2016, p. 28). Until the late-nineteenth century introduction of 'modern' cremation in the UK, burial had largely been perceived as the sole solution to the complications posed by the physicality of a corpse (Jupp 2006, p. 185; Davies 2015, p. 127). Burial involves the process of digging a grave within the ground and placing a corpse within it. In a traditional burial in the UK, the corpse – which, in the contemporary context, may be embalmed[22] – is buried in a grave in the ground, contained within a coffin,[23] with a memorial headstone[24] placed above the grave to define the grave as belonging to the individual buried within. Throughout history, the standard for the depth of graves has changed in the UK. The notion of graves being 'six feet under', largely attributed to attempts to manage the Great Plague of London,[25] is no longer an accurate assumption. With regards to grave depth, Article 10 of The Local Authorities' Cemeteries Order 1977 stipulates three requirements: (i) the coffin should be three feet below the level of any ground adjoining the grave; (ii) where the soil 'is considered to be of suitable character', burials in biodegradable coffins can be of a reduced depth of not less than two feet; (iii) there must be six inches between each coffin contained within a single grave (UK Parliament 1977). Most graves in the UK are three to four feet deep; graves prepared for multiple occupancy are deeper. A traditional burial in the UK occurs in a cemetery, burial ground, or graveyard. Traditionally, such burials would be conducted by the Christian Church, with a service held in a Church prior to the burial and the burial occurring in a churchyard (Rugg and Parsons 2018, p. 20). However, this trend is changing in the contemporary British context and burial is now provided by a diversity of religious and secular authorities, as Chapter 3 explores. Burial does not require any advanced technology, other than the ability to dig and refill a grave, which is perhaps suggestive of its longstanding popularity, being so practical. Aside from the ease of burial, many religious traditions have acted as proponents of burial, particularly those of Abrahamic origin, including Judaism, Islam, and Christianity. Such traditions generally hold the belief that burial prepares the mortal body for a form of immortal resurrection at a later stage. Until the nineteenth century, burial was the 'almost universal mode of disposal in Christian countries' (Leaney 1989, p. 118). Accordingly, burial was overwhelmingly the most popular method of dead body disposal in the UK for centuries until 1968, when the cremation rate overtook that of burial for the first time in British history (Cremation Society of Great Britain 2022). Despite the contemporary dominance of cremation in the UK, burial remains a popular method of body disposal, covering approximately 20 percent[26] of funerals in the UK.

[21] The use of the term 'traditional' burial is necessary to distinguish the practice from the contemporary practice of 'natural-woodland' burial in the UK. The practice of natural-woodland burial is discussed later in this chapter.
[22] Embalming is a process of preserving the corpse to slow the effects of decomposition. The embalming process involves draining the blood from the body to allow for the veins and arteries to be filled with preservative fluids via injection. Typically, chemicals such as formaldehyde are injected to preserve the body, but 'green' embalming options are now available, using natural oils rather than chemicals.
[23] According to the Environmental Stewardship Group, 85 percent of coffins used in the UK are made from particle board (Environmental Stewardship Group 2021c, p. 6).
[24] Headstones used in traditional burials tend to be made of non-biodegradable materials, such as granite.
[25] Orders published during the Great Plague of London prescribed graves to be 'at least six foot deep' (City of London (England) and Aldermen 1665).
[26] This approximation is based on the cremation statistics published by the Cremation Society of Great Britain every year (Cremation Society of Great Britain 2022); no official statistics exist in the UK detailing the total number of burials per year. Mortality statistics are published by the Office for National Statistics 'based on the information supplied when a death is

## CREMATION

Cremation is a process of burning the corpse to reduce it to ashes. 'Modern'[27] cremation occurs within a cremator,[28] which is usually contained within a crematorium.[29] Cremators tend to be gas powered, though electric cremators are becoming more widely available. During the process, the cremator is heated to between 700–850ºC before the corpse is placed inside the cremator within a coffin;[30] the process takes between an hour and three hours to complete, leaving bone fragments which are subsequently cooled and then cremulated[31] to form ash cremains;[32] the resultant ash can then be returned to the deceased's kin. The practice of cremation[33] is first noted in history[34] as early as 8000 BC in China during the New Stone Age. 'Modern' cremation in Britain has a long history, which is briefly outlined in this section. In Britain, cremation occurred from the Early Neolithic Period (4000–3000 BC) to the early (Pagan) Saxon period (410–650 AD); cremation occurred alongside burial during the Early Bronze Age (2300–1500 BC) and predominated the Middle Bronze Age (1500–1100 BC) but decreased in popularity during the Late Bronze Age (1100–700 BC). Later in British history, cremation predominated the early Roman period (43–150 AD), late Roman period (250–410 AD), and the early Saxon period (Davies 2005b). However, over the first two 'Christian centuries' cremation lost its place to burial (Jupp 2006, p. 4). Subsequently, burial was the principal method of dead body disposal in Britain for centuries, while cremation had not commonly occurred since the early Christian era and was negatively conceptualised as tainted with notions of paganism. Following this early period, cremation was practised in Europe 'only in exceptional circumstances: in times of pestilence, and as a form of execution' (Leaney 1989, p. 118; Davies 2017). This mood persisted for a significant period of British history. For centuries, religious traditions and cultural norms had condemned the use of cremation in Britain (Leaney 1989, p. 118). Consequently, spurring interest in cremation took time.

To exemplify the breadth of time that it took for cremation to gain traction, I note four historically significant events across three centuries which preceded the introduction of modern cremation in the UK. (i) In 1658, Sir Thomas Browne published *Hydriotaphia, Urn Burial*, which presents an account of funerary rites throughout history and documents evidence of the use of cremation in Britain. Browne describes the discovery of up to fifty urns in a field in Old Walsingham, Norfolk, containing cremated bones (Browne 1658). (ii) In 1769, Honoretta Pratt was cremated in an open grave, constituting the first recorded cremation in Britain. Notably, cremation had not been deemed a 'legal' act in the UK at this time. (iii) In 1789, Parliament abolished burning as a punishment,

registered', however, these statistics do not include information on burial or cremation as this 'is not supplied during the registration of a death' (Office for National Statistics 2018).

[27] The use of the term 'modern' refers to the cremation process that occurs in a contained purpose-built cremator, rather than a cremation that occurs on a funeral pyre, for example. See the definition of 'cremator' below.

[28] A cremator is a purpose-built furnace in which the cremation process occurs. 'Modern' cremators are designed to be used for single occupancy, specifically designed to fit one coffin; however, a mother and a baby or twin children that died in childbirth can be placed in one coffin and be cremated together in the UK.

[29] The term 'crematorium' is used 'to refer to the overall set of buildings housing the actual cremator in which bodies are incinerated, along with a chapel or ceremonies room, waiting room and other facilities that may include, for example, a room for a book of remembrance. Other terms are preferred in different countries and these will be encountered, for example, in some references to 'crematory' in the USA, and in Chinese contexts where, since 1985 crematoria have been named 'funeral rooms'.' (Davies 2005d).

[30] Some crematoriums allow the corpse to be cremated in a shroud or covering, however it is most typical for the corpse to be cremated within a coffin in the UK.

[31] 'Cremulation describes the process of rendering burnt bone fragments and other remains into a granular form of 'ash' or 'cremains'.' (Davies 2005e).

[32] 'The term 'cremains' is an abbreviated expression and euphemism referring to 'cremated remains'.' (Love 2005).

[33] The religious traditions of Buddhism, Hinduism, and Sikhism favour the practice of cremation over burial.

[34] The dates in this and the following two sentences are taken from Davies (2005b).

perhaps indicative of changing perspectives on cremation. (iv) In 1840, cremation was suggested on public health grounds (Davies 2005b). Despite these progressive indicators of British awareness of cremation, it was not until the late-nineteenth century that interest in cremation as an alternative method of dead body disposal was seriously considered in the UK. Mobilised action began with the formation of The Cremation Society of Great Britain (then, The Cremation Society of England) in 1874.

I now briefly sketch the historical keys to the introduction of modern cremation in the UK. As mentioned above, cremation was suggested on public health grounds during a cholera outbreak in 1840 with no avail. However, in the late-nineteenth century, 'a consensus had arisen in the scientific community that miasmas or smell emanating from decomposing bodies were a cause of fever and could be fatal in sufficient concentration' (Rugg and Parsons 2018, p. 22). With this scientific consensus defined, concerns heightened regarding diminishing land space, and inspired by the model of Professor Brunetti's cremator that he had witnessed at the Vienna Exposition in 1873, Sir Henry Thompson wrote papers advocating cremation, including his influential *The Treatment of the Body After Death* (1874), and formed The Cremation Society of Great Britain.[35] Bringing together his like-minded friends in 1874, a declaration was drawn up and signed by those present, disapproving of the practice of burial, and proposing a favoured alternative process. The proposed alternative would 'rapidly resolve the body into its component elements' and could not 'offend the living'; therefore, the decision was made 'to adopt that usually known as cremation' (Cremation Society of Great Britain 1874). The signing of this declaration constituted membership of the Cremation Society of Great Britain, a group collectively referred to as 'cremationists'[36] – advocates of cremation – who actively campaigned for the introduction of modern cremation in the UK. It is noteworthy to make some comment on the makeup of the Society. As indicated in the introductory chapter, members of the Society were drawn from the upper class of British society. Sir Henry Thompson, President of the Cremation Society, was surgeon and physician to Queen Victoria. Signatories of the 1874 Declaration were esteemed medics, artists, writers, clerics, and politicians. For example, key signatories included: Sir Thomas Spencer Wells, surgeon and physician to Queen Victoria and President of the Royal College of Surgeons; Anthony Trollope, novelist and civil servant, notable for his fictional novel *The Fixed Period* (1882); C. Shirley Brooks, journalist, former editor of *Punch*, and novelist, whose son wrote the infamous death and cremation notice of English cricket[37] in *The Sporting Times* in 1882; Frederick Lehmann, businessman and Liberal Party politician; John Tenniel, illustrator[38] and satirical artist, who was principal political cartoonist for *Punch* for half a century; John Everett Millais, esteemed painter and illustrator, made a baronet by Queen Victoria in 1885; and Rose Mary Crawshay, philanthropist and notable as the only female signatory of the Declaration. From the formation of the Society in 1874, formalised promotion and education of cremation began in Britain.

[35] Hereafter, The Cremation Society of Great Britain may be referred to as 'the Society' or 'the Cremation Society'.
[36] 'The word 'cremationist' is often used when people wish to refer to those who not only support the idea of cremation but also wish to foster its practice. It carries the connotation of an ideological position, often in opposition to burial. Sometimes, but not always, it implies a rejection of religious authorities when those authorities only encourage burial. It was a term that gained some currency in the late nineteenth and early twentieth centuries when individuals, groups and associations sought to establish cremation as a legal and socially acceptable option to burial.' (Davies 2005c).
[37] The obituary reads: 'In Affectionate Remembrance of English Cricket, which died at the Oval on 29th August, 1882, Deeply lamented by a large circle of sorrowing friends and acquaintances. R.I.P. N.B. – The body will be cremated and the ashes taken to Australia.' (Brooks 1882).
[38] Tenniel famously illustrated Lewis Caroll's *Alice's Adventures in Wonderland* (1865) and *Through the Looking Glass* (1871).

Perhaps the most significant key to the history of modern cremation in the UK is the legal declaration following the legal trial of Dr William Price. In 1884, Price was put on trial for attempting to cremate his recently deceased five-month-old-son, Iesu Grist (Welsh for Jesus Christ), which was deemed as having committed a crime. Price lit an open-air pyre on the top of a hill in Llantrisant, Wales, which attracted the attention of locals who saw the act as pagan, prompting public outrage and consequently his arrest. Despite some negative publicity, Price's arrest and trial signified a turning point in the progress of the introduction and legalisation of modern cremation in the UK. The judge of Price's trial, Sir James Fitzjames Stephen, eminently concluded that 'a person who burns instead of buries a dead body does not commit a criminal act unless he does it in such a manner as to amount to public nuisance by common law' (Queen's Bench Division 1884, pp. 254-256). This set precedent: cremation had, in essence, been pronounced legal by the court; 'if not legal, not illegal provided no sensible nuisance was caused to the public' (Jupp 2006, p. 68). The legal declaration essentially opened the floodgates for cremationists to promote cremation as a legally acceptable form of body disposal. As Davies notes, the 'legal decision opened the way for cremation as a normal means of disposing of the dead' (Davies 1990, p. 7). Subsequently, cremationists increased their efforts in attempting to normalise the concept of cremation in Britain. Following Price's trial, the Society publicly announced its preparedness to proceed with 'the cremation of anyone so requesting it' (Cremation Society of Great Britain 1974). The Society purchased land adjoining a cemetery in Woking, where the Society built the UK's first crematorium for public use. The Society advertised the readiness of Woking Crematorium in the press in 1885 (Jupp 2006, p. 73), and in the same year, the UK's first official cremation took place at Woking; it was 'the first legal cremation of modern times' in the UK (Jupp 2006, p. 74). In 1902, The Cremation Act, an act for the regulation of the burning of human remains, was enacted (UK Parliament 1902); the Act, with amendments, remains in force to this day. Here, it is significant to emphasise the nuance in the legal declaration and the time that it took for formal legislation and regulations concerning cremation in the UK to be actualised. Cremation was practised 'legally' in the UK from 1885, but the Cremation Act was enacted seventeen years later.

Despite this success, cremation was not immediately popular in the UK. Cremation was banned by Pope Leo XIII in 1886, which discouraged the uptake of cremation by Catholics in Britain, with the ban only lifted during the Second Vatican Council. In 1963, the Vatican altered its position on cremation, and the papal ban on cremation was completely lifted in 1966 (Congregation of the Doctrine of Faith 2016; De Spiegeleer 2019). As noted in Chapter 3, Catholicism's 'acceptance' of cremation reduced the importance of denominational considerations surrounding the disposal of the dead and prompted cremation to become more of 'a matter of personal choice' for British Christians (Jupp 2006, p. 158; p. 168). Nonetheless, 'Catholic cremations in the UK did not accelerate until the 1980s' (Jupp 2006, p. 168). Aside from religion, economic considerations also restricted cremation's initial adoption in the UK. Cremation was initially more expensive than burial (Rugg and Parsons 2018, p. 26) and it 'did not become more fully democratised until the 1950s and 1960s' (Davies 2015, p. 347). Cremation is now the cheapest method of body disposal in the UK and has therefore generally helped to reduce the economic cost of funerals, compared with burial. Cremation is now by far the most popular method of body disposal in the UK. It did, however, take time to popularise: by 1940, nearly 4 percent of funerals in the UK involved cremation, this reached 50 percent by 1968, and climbed to 71 percent by 2000 (Cremation Society of Great Britain 2022). Currently, closer to 80 percent of deaths in the UK result in cremation. This dramatic shift in normative funerary practice is representative of changing societal values: shifting life values in Britain influenced British death-styles, signified by the shift from burial to cremation. The aftermath of the Second World War, the formation of the NHS,

and the influence of increased freedoms from the 1960s onwards, alongside significant investment in cremation infrastructure by local authorities, were all contributing factors to the dramatic shift in normative British death-style from burial to cremation that occurred in the twentieth century.

Cremation not only introduced a new venue for funerals in the UK, but it also offers the possibility of a different type of memorialisation to traditional burial. The production of ashes by the cremation process necessitates action – what such action involves is not universal in the contemporary British context. The practice of burial is often perceived as a 'final' disposal since the deceased's final place of 'rest' is well defined: quite simply, the grave in which they are buried. Typically, a headstone memorial is placed above the grave in order to mark the grave as belonging to the deceased, and the grave itself becomes a memorial site which kin can visit in order to commemorate their dead. However, with cremation, this 'final' place of 'rest' is not well defined. Following cremation, the resultant ash is placed in an urn, and awaits to be collected[39] by kin. What happens to the resultant ash has changed over time. Traditionally, ashes were buried in graves or placed in an urn located in columbaria;[40] however, from the mid-1970s onwards, 'the British took cremated remains away from crematoria to use them in ways they decided upon for themselves' (Davies 2015, p. 135). In 1970, 'one in ten sets of ashes were taken away for private disposal' and by 2004, this proportion reached 56 percent (Kellaher, Prendergast, and Hockey 2005, p. 239). Today, many scatter or bury ashes in a place of significance to the deceased and their kin (Davies and Guest 1999). This enabled a further ritual in addition to the funeral service itself; not only an additional ritual, but a personalised ritual in which the deceased, or their kin, can choose the 'final' destination(s)[41] of the ashes for the deceased's 'final' disposal. This location may, in turn, become a place which kin return to commemorate their dead as with the tradition of burial. However, there exists no normative 'British' practice following a cremation regarding what to do with the resultant ash; some ashes may never be collected from the crematorium or funeral directors' premises; some families will keep the ashes in the urn they received them in within the family home; and others scatter or inter the ashes at a place of their choosing. Research conducted by SunLife found that in 2022, 50 percent of ashes were to be scattered, 27 percent of ashes were kept by kin, 21 percent of ashes were to be buried, and 'something else' was going to be done with 2 percent of ashes (SunLife 2023, p. 39). The ash produced in cremation therefore provides the opportunity for further personalised ritual and memorialisation, discussed further in Chapter 3. Hence, the introduction and popularisation of modern cremation changed the deathscape of Britain in a number of ways, perhaps embodying a turn towards a 'modern' way of death.

[39] Often via the funeral director who organised the cremation.
[40] Columbaria are structures in which urns are stored, resembling the dovecotes or columbaria of classical antiquity.
[41] Some now choose to divide the ashes to share between kin. Consequently, the ashes may be interred or scattered in multiple locations. Moreover, it is now possible for (divided) ashes to be placed in jewellery, tattoo ink, paintings, and so on.

## NATURAL-WOODLAND BURIAL

'Natural'[42] burial is a form of interment, premised on the aim of having as little environmental impact as possible; it is therefore typified as an environmentally friendly alternative disposal technique to 'traditional' burial. To this end, a natural-woodland burial in the UK typically consists of the shallow burial of a non-embalmed corpse, within a biodegradable container, either with no headstone or a headstone memorial made of biodegradable materials placed above the grave, and an absence or lack of grounds maintenance at the site. Through these actions, natural-woodland burial seeks to be an ecologically beneficial act, with the corpse and materials used in burial acting as nutrients to the ecosystem. Contrastingly, a traditional burial may result in embalming fluids such as formaldehyde seeping into groundwater, non-expressly biodegradable coffins slowing the rate of decomposition, frequent grounds maintenance, and the use of imported permanent headstones, worsening the environmental impact compared with a natural-woodland burial. Moreover, 85 percent of UK coffins are reportedly made of particle board (Environmental Stewardship Group 2021c), which, often manufactured with the use of formaldehyde-containing-resins and toxic glues, release toxins into the ground when buried. The use of such a coffin would be discouraged at a natural-woodland burial site for this reason. There are no specific legal regulations concerning the practice of natural-woodland burial in the UK, but the Ministry of Justice published guidance for natural burial ground operators in 2009 (Ministry of Justice 2009).

Natural-woodland burial emerged as a formalised body disposal practice in the UK in the early-mid 1990s, with the first natural burial site opened at Carlisle Cemetery in 1993 by Ken West. Natural-woodland burial grounds differ from traditional burial grounds most obviously in the appearance of sites, many resembling a flourishing meadow rather than a neatly kept church graveyard. Some natural-woodland burial sites therefore 'bear little overt evidence of who is buried where' (Clayden et al. 2015, p. 5). Kin of the deceased buried at natural-woodland burial sites are required to accept that, in time, the site of the grave will become an 'anonymous' landscape and may become inaccessible at some future point due to the natural growth of the landscape (Clayden et al. 2015, p. 138; 2010, p. 119). Nonetheless, there is diversity in the appearance of natural-woodland burial grounds in the UK, meaning that 'an all-encompassing definition for natural burial grounds seems impossible' (Davies and Rumble 2012, p. 19). By 2014, there were over 260 natural-woodland burial sites in the UK, which was approximately the same as the number of crematoria in the UK at that time (Davies 2015, p. 347). There are now expected to be over 300 natural-woodland burial sites in the UK, demonstrating a growing demand for natural-woodland burial, since sites have been required throughout the country. Its introduction and popularisation demonstrate a significant shift in popular understandings, enabling change within the British funeral industry. Moreover, its introduction emphasised the necessary link between funerals and ecology. The introduction of natural-woodland burial in 1993 was the most significant shift in practices of dead body disposal in the UK since the introduction of cremation in the late-nineteenth century. Nonetheless, despite the popularity of natural-woodland burial and its apparent demand given the number of sites across the UK, cremation overwhelming remains the dominant funerary choice in the British context because while there are similar numbers of natural-woodland burial sites and crematoria, burial only accounts for approximately 20 percent of funerals in the UK – the exact number of which are natural-woodland burials is not concretely known. As Clayden et al. note, there

[42] 'Natural' burial is also referred to as 'woodland' burial, 'green' burial, and 'ecological' burial. The use of the term 'natural-woodland' burial is to distinguish the practice from 'traditional' burial, explored earlier in this chapter.

‘are no national records maintained for the number of burials or interments of ashes at natural burial sites in the UK’ (Clayden et al. 2015, p. 39). However, they estimate that natural-woodland burial represented approximately 1 percent of all burials in England and Wales in 2007 (Clayden et al. 2015, p. 40): to contextualise, burial accounted for approximately 27 percent of UK funerals in 2007 (Cremation Society of Great Britain 2022).

In order to preface the discussion on the prospective introduction of AH in the UK, it is important to discuss what sociocultural conditions may have allowed the introduction and popularisation of natural-woodland burial in the UK. In terms of the physical ‘act’ of disposal, natural-woodland burial is most closely associated with the practice of traditional burial because it involves the interment of the dead body. Hence, while natural-woodland burial is fundamentally innovative, it is familiar because burial has been practised as a culturally acceptable method of body disposal for centuries in the UK. Accordingly, the introduction of natural-woodland burial in the UK did not require the introduction of new legislation or the altering of existing legislation relating to burial. Nonetheless, the practicalities surrounding attendance of a natural-woodland burial starkly differ to a ‘traditional’ funeral involving burial or cremation. For example, natural-woodland burials often require mourners and funeral directors to ‘negotiate rough grass, bushes, and trees as they access grave sites off any immediately beaten track’, so much so that if it is a wet day ‘wellingtons or other rough footwear’ would be best suited for the occasion (Davies 2015, p. 357). Moreover, while detailed records of the mapping of graves are kept, no ‘permanent’ headstone marker is used to signify the marking of a grave unlike in traditional burials (Clayden et al. 2010, p. 119). Sometimes a marker made of wood is used; however, this is done with the knowledge that it ‘too, will decay’ (Davies 2015, p. 350). Hence, many who choose natural-woodland burial feel that it allows the deceased to ‘be at one’ with nature, or ‘give something back’ to nature (Rumble 2010). Consequently, as with the introduction of cremation in Britain, natural-woodland burial altered the memorialisation processes associated with traditional burial. As already indicated, the grave site of a natural-woodland burial will typically blend in with the natural landscape and may eventually become inaccessible, and thus kin may not have a grave site at which to commemorate their dead, despite the finality of their placement. With natural-woodland burial, then, perhaps there is a shift away from the concerns of mourners seeking to memorialise their deceased kin to the importance of the final placement of the dead as embedded within the natural landscape, which embodies a shift in focus in the meaning of body disposal. Clayden et al. argue that ‘whilst unmarked graves have always been a feature’ of British cemetery landscapes, those at natural-woodland burial grounds represent ‘a positive choice, an acceptance of anonymity in death’ (Clayden et al. 2010, p. 119). Hence, the introduction of natural-woodland burial changed the deathscape of Britain once more. Nevertheless, despite the differences in practicalities, natural-woodland burial is not a ‘new’ technology, rather, it is a ‘new’ way of doing a long-established practice. Moreover, it is environmentally friendly, which increases its appeal for those ecologically-minded and those who seek a ‘simple’ funeral. Natural-woodland burial does not require a major reframing of fundamental understandings regarding the process of burial, rather, the popularisation of natural-woodland burial in the UK represents a shift in popular understanding regarding the factors influencing choice of body disposal: namely, a growing demand for an explicitly sustainable option. The introduction of natural-woodland burial allowed an individual’s death-style to become aligned with their lifestyle in a way not previously offered to the British population (Davies 2005a; Davies and Rumble 2012; Davies 2015): it made it explicitly possible for an environmentally-framed life to continue through to death.

## ALKALINE HYDROLYSIS

AH is an innovative method of body disposal that uses a pressurised and heated alkali-water based solution (95 percent water: 5 percent alkali,[43] heated to 150°C) to accelerate the natural processes associated with decomposition. The AH process is also referred to with terms including 'aquamation', 'bio-cremation', 'flameless cremation', 'green cremation', 'resomation' and 'water cremation', some of which are trade names. In essence, the AH process accelerates the natural decomposition process to reduce the corpse to bones and a DNA-free residual fluid. This mimics the process that would occur naturally during burial, whereby hydrolysis is prompted by the alkalinity of the soil and soil bacteria. This thesis, situated in the British context, will largely refer to the AH process as engineered by UK-based Resomation Limited[44] – 'Resomation'[45] – since the first commercial installation of an AH system in the UK is expected to be a Resomator, rather than an AH system manufactured by USA-based Bio-Response Solutions.[46] The AH process, as engineered by Resomation Limited, occurs in a 'Resomator',[47] a purpose built single-body stainless steel vessel; see Figure 1 for a visual representation. The corpse is placed inside the Resomator, within a biodegradable container, usually made of materials such as silk or wool; then water, heat, pressure, and alkaline are added to begin the decomposition process, which takes three to four hours[48] to complete. The process differs depending on the pressure and temperature[49] used, however, the outcome is the same. The differing technicalities of the process are therefore dependent on the manufacturer and vessel used. At the conclusion of the process, in most AH systems, the pH value of the residual fluid and water used is assessed – and, if necessary, is chemically treated with acid – to ensure the effluent is sterile and at the appropriate pH to enter the water system via the standard wastewater treatment systems. In some AH systems in the USA, the residual fluid is used as fertiliser[50] (Robinson 2021a). In all processes, the bones are dried and then cremulated[51] to form white 'ash' cremains, which could perhaps more appropriately be termed 'resomains' (Robinson 2021b); these 'ash' remains can later be returned to the deceased's kin, as with the tradition of cremation. Commercially, then, AH has primarily been posed as an environmentally friendly alternative to cremation. Although the process of AH fundamentally differs to that of cremation, the solid output is similar, and so, familiar. Cremation produces ash, which can be returned to the kin to be 'disposed' of. Much the same, the AH process concludes with the bones which can be ground to white 'ash'. The processes are therefore, as Davies expressed, 'potentially similar in that a body is taken and rendered into powder' (Davies 2015, p. 116). Although not presently offered, it has been suggested that an alternative option could involve the remains being returned

[43] Resomators use liquid potassium hydroxide, with automated chemical delivery from external tanks into the Resomator. Bio-Response units use either liquid or dry chemical delivery. Some Bio-Response units use only potassium hydroxide, while others use a mixture of potassium hydroxide and sodium hydroxide. The amount of chemical used is calculated relative to the body mass of the deceased.
[44] Resomation Limited is a UK-based company that supplies alkaline hydrolysis systems worldwide and is actively seeking to introduce the process in the UK, see: https://resomation.com/.
[45] The use of the capitalised term 'Resomation' refers to the AH process specifically engineered by Resomation Limited.
[46] Bio-Response Solutions Inc. is a USA-based company that supplies alkaline hydrolysis systems worldwide, see: https://aquamationinfo.com/.
[47] The Resomator is a highly automated AH vessel; the Resomator's software enables automated weight measurement, water and chemical delivery, and pH control (Resomation Limited n.d.-a).
[48] The hydrolysis part of the AH process takes between an hour and an hour-and-a-half to complete in a Resomation system.
[49] Bio-Response Solutions engineer both high and low temperature AH systems. Bio-Response's high temperature AH system operation times are akin to those of the Resomator, taking 6-8 hours to complete; Bio-Response's low temperature AH system (operating at 95.6-97.8°C and at atmospheric pressure) operation times are much longer, taking 14-18 hours to complete.
[50] See Chapter 5 for a discussion about the 'acceptability' of such use.
[51] This is the same process that occurs after the cremation process is completed.

un-pulverised, i.e., the bones that remain following the AH process are not cremulated, but rather returned to the kin in a suitable container to be buried. The availability of this option could provide further choice for the consumer and furthermore perhaps enable the practice of AH to align theologically with religious traditions that favour burial over cremation in a more direct way. Religious perspectives towards AH are discussed in Chapters 3 and 4. Fundamentally, with either option of resomains, the AH process does not require any change to the desired funeral service (or lack of service) of the deceased, merely the back-stage conclusion of the funeral differs.

Figure 1. Resomation (left) and Bio-Response (right) Alkaline Hydrolysis Systems. Images courtesy of Resomation Limited and Bio-Response Solutions respectively.

The AH process has stood the test of time in the scientific realm. AH was first developed and patented in the USA as a chemical process by British analytical chemist Amos Herbert Hobson in 1888 and then later developed by Albany Medical College's Dr Gordon I. Kaye and Dr Peter B. Weber in the 1990s. Hobson developed the process in the 1880s primarily in order to enable the opportunity to produce fertiliser and other beneficial by-products from the bones of animals; Hobson obtained a patent for his AH process in the USA in 1888. Kaye and Weber further developed the process in hope of finding 'an effective and inexpensive way to dispose experimental animal remains that contained low-level radioisotopes' (Olson 2014, p. 672); Kaye and Weber's AH process obtained a patent in 1994. AH was approved by the European Parliament for use on animal carcasses infected with diseases such as BSE in the early 2000s (Sullivan 2022). Kaye and Weber's now defunct company, $WR^2$, developed the first AH system for human corpse disposal; an AH system designed for the disposal of multiple human remains donated to medical research was installed at the Shands Hospital, University of Florida, USA, in 1995. $WR^2$ later designed and manufactured the first single-body AH system for human corpses in 2005 for Mayo Clinic's Anatomical Bequest Program; the system was commissioned at Mayo Clinic, Rochester, USA, in 2006. Sandy Sullivan, founder of Resomation Limited, and Joe Wilson, founder of Bio-Response Solutions Inc., were chief operators of $WR^2$ for Europe and the USA respectively. $WR^2$ went out of business in 2006, but Sullivan and Wilson continued working with AH technology separately. Both men independently set up their own companies to conduct this work: Sullivan founded Resomation Limited in Scotland, UK, in 2007; and Wilson founded Bio-Response Solutions in Indiana, USA, in 2006. Sullivan set out to develop a high temperature AH system specifically designed for human disposition, while Wilson set out to develop a low temperature AH system,

primarily for disease control in relation to the disposal of animal carcasses, later focusing on a system for human corpse disposal too (Robinson 2021a). Over the course of time, AH has been used experimentally with animal carcasses, and, more recently, a number of universities and hospitals in the USA have used the method for the final disposition of human bodies donated to medical research.

The number of donated body programs that use AH as the final method of body disposal in the USA is increasing. Especially notable are the donated body programs at University of California, Los Angeles (UCLA) and Mayo Clinic, both of which currently have Resomators installed on site. The AH system commissioned at Mayo Clinic in 2006 was the first AH system manufactured for human corpse disposal which was deemed as 'fit' for use within the funerary realm; this is because it was designed as a single body system. As such, as explored in depth in Chapter 4, Mayo Clinic was the first institution in the world to use what I term 'funerary' style AH. In the funerary realm, the AH process was first used commercially for human corpses in the USA in 2011: Bio-Response Solutions Inc. installed their system at Edwards Funeral Service in Ohio in January 2011; and Resomation Limited installed their system at Anderson McQueen Funeral Home in Florida in October 2011. Hence, the process, under its various names, has been commercially functioning in the USA funeral industry for over a decade. Pet systems in the USA are immensely popular and are widely used; for deceased pets, the process is legal in every state in the USA. At the time of writing, the AH process for human corpse disposal is legal in twenty-six states in the USA.[52] A history of the progress of AH in the USA is developed in depth in Chapter 4.

Despite the innovation's progress in the USA, as of April 2023 – over a decade after AH was first offered in the USA – AH is still not a functioning funerary option in the UK. As previously noted, Resomation Limited was formed in the UK in 2007; the company has been working to develop their 'Resomation' process and to establish the practice of AH within the British funeral industry ever since. In order for AH to become a possibility in the UK, two key obstacles needed to be overcome and resolved: (i) legal regulations, and (ii) public-industry perceptions. Additionally, the introduction of new funerary practices also requires acceptance by established cultural, religious-theological, and secular traditions, and popular worldviews relating to death ritual. The compatibility of British worldviews with AH are discussed in Chapter 3 and public-industry perceptions of AH are discussed throughout the thesis, but especially in Chapters 4, 5 and 6. In terms of legality, in the UK, there are currently no legally binding regulations specifically concerning AH, albeit the process is not technically illegal. AH and other innovative techniques are currently legal in Britain providing the practices 'do not infringe sanitation laws or offend public decency' (Conway 2016, p. 50); hence why the Resomation 'Case Study', discussed subsequently, was legally permissible. The existing laws on burial and cremation prescribe the appropriate treatment of corpses, which can be applied to the practice of AH. Nevertheless, while the AH process may be both scientifically verified and technically 'legal' in the UK, Conway argues that 'detailed provisions would have to be introduced in the longer term' to appropriately safeguard the provision of the practice of AH in the UK (Conway 2016, p. 50). Possibilities for legalisation and regulation include consolidating current disposal laws with the addition of regulations for AH, or the introduction of a new law concerning AH as a separate entity to burial and cremation (Conway 2016, p. 234). How AH may become defined in the law, and how it would be regulated, is still to be established in the UK. The Law Commission announced plans to reform the UK's funerary laws in 2017

[52] AH is currently legal in Alabama, Arizona, California, Colorado, Connecticut, Florida, Georgia, Hawaii, Idaho, Illinois, Kansas, Maine, Maryland, Minnesota, Missouri, Nevada, North Carolina, Oklahoma, Oregon, Tennessee, Utah, Vermont, Virginia, Washington, West Virginia, and Wyoming. Information correct as of 8 February 2023.

(Law Commission 2017). On 22 December 2022, the Law Commission announced that this project had begun, but the timescale for its completion remains undetermined (Law Commission 2022). It is hoped that the project, 'A Modern Framework for the Disposal of the Dead', may formally legalise and regulate AH in the UK. Here, it is important to refer to the earlier discussion about the process of legalising cremation in Britain to emphasise the paralleled legal position of AH now with cremation in 1885, when cremation was deemed a 'legal' act. If AH follows a similar trajectory to cremation in the UK, then it is likely that the practice will first be introduced and then regulations will follow, rather than the regulations preceding the practice because UK law tends to be *reactive* rather than *proactive*. The perceived popular acceptability of AH as an alternative method of dead body disposal in the UK, including by religious institutions, will be discussed in Chapter 3.

### *THE RESOMATION CASE STUDY*

Significant in AH's history in the UK are the events surrounding the first planning application to install a Resomator in the UK and its aftermath. On 21 December 2016, Sandwell Council's Environmental Services (Rowley Regis Crematorium, West Midlands, UK) and Urban Design divisions applied for planning permission[53] to extend Rowley Regis Crematorium to include a 'Bio Cremation Facility'; planning permission for the facility was granted on 6 March 2017. Subsequently, the UK's first commercial AH system, a Resomator, was expected to be commissioned at Rowley Regis Crematorium in 2017, and this would have been the first commercially functioning centre for AH in the UK. However, this was not possible because Sandwell Council were unsuccessful in obtaining Consent to Discharge Trade Effluent from the AH process from Severn Trent (a UK Water Authority), and so the plans were halted. This denial was partly due to a lack of existing standards in the water industry regarding the processing of 'human remains', but also because of concerns regarding the perceived negative public response that would arise as a result of the (mis)conception that 'human remains' would be going 'into the water system' via the AH process (Matthews-King 2017). It is important to note that all disposal techniques, and therefore 'human remains', interact with the water cycle in some way. However, because the AH process uses water, it is understandable that the question of what happens to this water inevitably comes to the forefront of one's mind in a direct way, rather than, for example, the less obvious way that the occurrence of seepage in burial might. Nevertheless, because AH uses water in the process and this water inevitably interacts with the water system through its disposal, approval by Water Authorities is necessary for its use to be permissible in the UK. Consent to Discharge Trade Effluent permits must be sought for each individual site wishing to install an AH system in the UK. Following Severn Trent's denial of a Trade Effluent permit to Sandwell Council for Resomation due to concerns regarding the process's effluent, Resomation Limited sought to evidence the safety and suitability of the effluent for standard wastewater treatment systems through objective scientific analysis. In doing so, Resomation Limited hoped to obtain independently verified scientific evidence to provide to the Water Authorities when applying for Trade Effluents to discharge wastewater from the AH process. Hence, the events surrounding Sandwell Council's attempt to install a Resomator at Rowley Regis Crematorium highlighted the need for independent analysis of the AH process and, moreover, led to increased media and therefore public-industry attention of AH, discussed in Chapter 6.

[53] Details of the planning application and subsequent permission can be found online via: https://webcaps.sandwell.gov.uk/publicaccess/ [reference: DC/16/60149].

Consequently, in April 2019, a Resomation 'Case Study' took place in order to independently assess the characteristics of the resultant effluent from the Resomation AH process and its impact in receiving water systems. Lundy, Linneker, and Bradshaw (2019) refer to this as the 'post-process effluent', which the authors acronymise to 'PPE'. The Resomation Case Study was facilitated by Middlesex and Sheffield Universities in collaboration with Resomation Limited and was assisted by Yorkshire Water, the Federation of Burial and Cremation Authorities (FBCA) and the Institute of Cemetery and Crematorium Management (ICCM). Appropriate authorities, including the Ministry of Justice and Human Tissue Authority, were made aware of the study and granted relevant approvals in order for it to occur. Prior to the study, the FBCA set up a 'Water Cremation Working Group' in January 2019, with four local authorities[54] represented. Professor Douglas Davies, as an academic involved in the study of funerary rites, was also an invited member of the Group and attended the UK's first Resomation on 2 April 2019. The Group reviewed the Resomation process, discussed and proposed suitable documentation for its practical implementation, and worked to establish a 'Code of Practice for Water Cremation' akin to the FBCA's 'Code of Cremation Practice'[55] to ensure that the correct guidelines and regulations were followed during the Resomation Case Study and beyond, liaising with the Ministry of Justice and Water UK. Additionally, the ICCM worked with Resomation Limited to establish how prospective service providers will be trained and certified if and when AH becomes a functioning funerary practice in the UK. Finally, full ethical approval for the study was obtained from Sheffield University's Ethics Committee and further ethical approval for the analysis of samples for DNA and proteins was obtained from Middlesex University's Ethics Committee (Lundy, Linneker, and Bradshaw 2019, pp. 10-11). The work conducted prior to the occurrence of the Resomation Case Study was vital, particularly for establishing what needed to occur to ensure that appropriate existing regulations were followed during the process. As Lundy et al. report:

> 'The study was collaboratively designed by a range of stakeholders to ensure that it was undertaken with the same due care, responsibility and dignity afforded to traditional cremation and that the collection and analysis of PPE samples focussed on parameters of interest from a trade effluent consent (TEC) perspective.'
>
> (Lundy, Linneker, and Bradshaw 2019, p. 4)

During the Resomation Case Study, five separate 'Resomations' took place within a Resomator temporarily installed at Sheffield University, and samples from the five 'Resomations' were subsequently analysed by experts at Middlesex University. The Resomation Case Study tested the residual fluid following the Resomation process against parameters set by Yorkshire Water determining the permissibility of the wastewater to be discharged to the sewer system. As noted above, Yorkshire Water was involved with the Resomation Case Study and undertook a site visit in September 2019 to Bradshaw Celebration of Life Center, Stillwater, Minnesota, USA, where a Resomator has been installed and functioning since 2012. Yorkshire Water representatives also visited the Minnesota Municipality of Stillwater and the Metropolitan Council for further guidance on how to 'treat' the effluent in practice. The aim of the visit to Stillwater was to provide 'assurance on the process and governance arrangements associated with alkaline hydrolysis' (Smith and Cottam 2019). While the Resomation Case Study

[54] The Local Authorities involved in the Working Group and subsequent study included Bradford, Durham, Nottingham, and Sandwell Councils.
[55] See: https://www.fbca.org.uk/code-of-cremation-practice/.

only included five 'cases', it 'encompassed a range of body characteristics in terms of gender (4 male; 1 female), body mass (53-117kg) and embalmed status (3 embalmed, 2 not embalmed)'; data from each of the five 'cases' were combined and considered as a single dataset, thus essentially formulating an 'average' case situation (Lundy, Linneker, and Bradshaw 2019). Responding to the concerns previously raised by Severn Trent that human remains would enter the water system via the Resomation AH process, the Resomation Case Study demonstrated that the residual fluid following Resomation contains no DNA (Lundy, Linneker, and Bradshaw 2019; NAFD 2019; SAIF 2020; Sensi 2020), and thus human remains would not enter the water system via the Resomation process. Furthermore, Smith and Cottam conclude that Yorkshire Water's Stillwater visit and Lundy et al.'s report 'provides further evidence that there is no reason why the post-process effluent should not be discharged to the wastewater network as trade effluent, provided adequate capacity is available' (Smith and Cottam 2019). Hence, the Resomation Case Study resolved the concerns previously raised about the safety of the Resomation AH effluent and its disposal.

The Resomation Case Study was significant for a number of reasons, with three outcomes holding the most significance for AH's progress in the British context. First, although the 'Resomations' did not occur in a 'commercial' setting, they constitute the first AH of human corpses to occur in the UK. Second, the Resomation Case Study findings demonstrated that the Resomation AH process is safe for use in the UK. Third, the Resomation Case Study findings prompted Yorkshire Water to grant Resomation Limited with Consent to Discharge Trade Effluent from the AH process on 7 February 2020 (Resomation Limited 2020); this set precedent, technically enabling AH's use for human corpse disposal in the UK, albeit not officially. AH is thus increasingly closer to becoming a reality in the UK, with multiple Water Authorities following Yorkshire Water's suit, and planning authorities subsequently granting permissions for systems to be installed. The UK's first centre for AH is expected to open in the North East of England in mid-2023. Throughout the development of this thesis, a close eye has attended to the developments leading to the opening of the UK's first centre for AH. One element of this has been tracing planning applications; this has since shifted to the projected installation date of the Resomator and opening dates of the facility. In Summer 2022, Howard Pickard, Managing Director of Resomation Limited, confirmed that written authorisation for the Purchase Order instructing the commission of a Resomator for the Kindly Earth site[56] had been received from Julian Atkinson, Director of Kindly Earth.[57] Plans detailed that the Resomator would be installed at the Kindly Earth site in October 2022 and the facility would open in mid-2023. Further communication with Pickard in early Spring 2023 confirmed that the Resomator was installed as planned and the facility's launch date is imminent. How the process will be received by the British public and funeral industry is yet to be seen.

### *ALKALINE HYDROLYSIS AND THE CREMATION SOCIETY OF GREAT BRITAIN*

It is significant to note that the innovators promoting the introduction of modern cremation in the nineteenth century were conscious of potential developments, similar to their own, in the future. As such, the Society was

[56] Located at Marson House, Freezemoor Road, New Herrington Industrial Estate, Houghton-Le-Spring, DH4 7BH. Details of the planning applications can be found online via: https://online-applications.sunderland.gov.uk/ [references: 20/02190/MAW and 21/00016/NONDET].
[57] See: https://kindly.earth.

established with the view to support further innovations in the future. As the 1874 Declaration of the Society reads:

> ‘We, the undersigned, disapprove the present custom of burying the dead, and we desire to substitute some mode which shall rapidly resolve the body into its component elements, by a process which cannot offend the living, and shall render the remains perfectly innocuous. Until some better method is devised we desire to adopt that known as cremation.’
>
> (Cremation Society of Great Britain 1874)

The statement ‘until some better method is devised’ suggests that the early cremationists were forward thinking, understanding that developments may be made, and an alternative suitable method may emerge, prompting the need for similar action to those advances that they had made in order to introduce the practice of modern cremation in the UK. In 2008, the Society formally amended its Memorandum of Association (Cremation Society of Great Britain 2008b), updating the ‘objects for which the Society is established’, making this component even more potent in the third objective:

> ‘3. The objectives for which the Society is established are:
>
> (1) to promote the practice of cremation for the respectful disposal of bodies and dead persons;
>
> (2) to advance public education in the practice and ethics of cremation; and
>
> (3) to investigate methods of disposing of the bodies of dead persons which appear to the Society to be superior to cremation and, if the Society thinks fit, to promote such methods and advance public education in their practice and ethics either instead of or in addition to cremation.’
>
> (Cremation Society of Great Britain 2008a)

The Society has explicitly named Resomation as a method which may be promoted in the future, in addition to cremation. As the Society explains in its reasoning for amending its Memorandum in 2008:

> ‘Until the arrival on the scene of resomation […] the Society has never thought that these rival methods held sufficient promise of practical application to justify the Society taking any greater interest in them than to learn about them, and certainly not to support any practical steps to investigate them. The Council of the Society, however, took a different view about resomation’
>
> (Cremation Society of Great Britain 2008a)

The Society concluded that it would not cite Resomation by name, however, it certainly appears that the changing of the Memorandum was directly in relation to the prospective introduction of AH in the UK. In 2008, therefore, the Society investigated the legal possibilities of Resomation further. In the same year, the Ministry of Justice hosted a specially convened meeting to discuss ‘the scientific principles concerning Resomation’ and ‘issues surrounding it as a method of disposal, including the legislative and environmental issues’ (Cremation Society of Great Britain 2008a). The Society reported that ‘at the conclusion of the meeting the Ministry of Justice could not have been left in any doubt that there was strong support for this concept of disposal from the funeral industry’ (Cremation Society of Great Britain 2008a). All representatives of UK funeral directors present at the meeting agreed that ‘the sooner resomation could start, the better’ and there needs to be ‘responsible education of the

public' (FBCA 2008). At this meeting, it was clarified that 'in principle what is not made unlawful […] is permitted and therefore legal' (FBCA 2008), and so AH was established as a *legal* but *unregulated* act. Interestingly, despite the Ministry of Justice reporting that it would 'consider an appropriate policy response and how resomation could be accommodated within existing legislation, or what amendments might be necessary' following the conclusion of the meeting (FBCA 2008), AH remains an unregulated disposal method in the UK fifteen years later. Though traction is yet to be seen regarding the promotion of 'such methods' by the Society, Resomation Limited have continued to feature in the programmes and exhibitions of Society Conferences, and the significance of the Society formally amending its Memorandum and explicitly outlining in the Society's Annual Report that a driving reason for this was the Society's interest in 'Resomation', cannot be overstated (Cremation Society of Great Britain 2008a). Hence, the Society is undoubtedly continuing to influence progress in British society by contributing to the public-industry education and development of further innovations in processes of dead body disposal, currently alongside cremation, in twenty-first century Britain.

## SHIFTING BRITISH DEATH-STYLES

As detailed throughout this chapter, funerary practices in the UK have not been static. Although the progress of change within the British funeral industry has been slow – with cremation effectively legalised in 1885 and taking nearly a century for its popularity to increase to the same level as burial in 1968, and with natural-woodland burial introduced in 1993 but not overtaking the popularity of traditional burial or cremation – funerary practices and their associated rituals have nonetheless changed over time. Changes to British death-styles are still occurring in diverse ways, largely seen in the form of ritual innovation – as is discussed fully in Chapter 3 – and there is momentum for further change aligned with contemporary environmental concerns. In 1885, when cremation was effectively legalised in the UK, a typical funeral service would occur at a church, orchestrated by a minister, with a Christian burial in a churchyard following the church service. Today, the majority of funeral services occur at a crematorium, with a cremation following the service. Religious services, delivered both at places of worship and crematoriums, are still popular. However, the norms and expectations of a funeral service have certainly shifted over the past century, allowing for the possibility of 'eclectic' and 'personalised' funeral services and post-disposal rituals, which may include no religious elements. These innovations are discussed comprehensively in Chapter 3. Nevertheless, despite the changes to British death-styles over the past few centuries – most contemporarily seen in changes to the content of funerary services and the introduction of natural-woodland burial – the choices available at the end of life in the UK ultimately remain binary: a choice between burial or cremation. The introduction of AH in the UK offers the possibility for a choice that differs from burial and cremation, and that also aligns with contemporary environmental concerns. Proponents of AH have been working to facilitate the choice of AH within the British deathscape as this thesis has been written – the reality of AH is increasingly close. Contextualised by the history of the contemporary British deathscape presented in this chapter, the following chapter discusses the environmental impact of British funerary practices, and the role that the influence of the climate emergency may have on changing normative funerary practices in the UK by prompting sustainable lifestyles to be more explicitly reflected in death-style. As this chapter has shown, while the introduction of natural-woodland burial in the UK enabled the provision of more environmentally sound funerals than was previously possible through the provision of traditional burial or cremation, there is scope for further environmental funerary choices at the end of life in the UK.

# II

# DEATH AND THE ENVIRONMENT

This chapter discusses the fundamental link between funerary activities and their impact upon the environment. It illustrates how funerary activities relate to the global climate crisis by discussing the specific environmental impact of funerary activities, considering how this impact can be reduced, and exploring what influence contemporary popular environmental consciousness may have on changing normative British death-styles. The chapter provides theoretical background on the notions of ecology and environmentalism and assesses the phenomenon of 'green consumerism' and its relationship with funerary consumption. It then evaluates the environmental impacts of burial, cremation, and AH, and examines how the environmental problems associated with funerary activities can be addressed. The conditions of the COVID-19 pandemic are then thoroughly assessed to consider how the pandemic heightened popular awareness of funerary activities and their environmental impact. Finally, the chapter considers whether environment focused change is possible within the British funeral industry. In sum, the chapter argues that environmental change will occur within the British funeral industry and that with a growing number of people committing to embracing sustainable lifestyles, there will correspondingly be a popular shift towards more sustainable death-styles in Britain.

## ECOLOGY AND ENVIRONMENTALISM

In order to appropriately situate the discussion of this thesis, an exploration of the intellectual history of ecology and environmentalism is necessary. 'Ecology' is the study of the relationships between organisms and their environment or 'ecosystem';[58] it is primarily a scientific study, rooted in the discipline of biology. Ecology is deemed as a relatively 'new' science, developed substantially within scientific circles during the eighteenth and nineteenth centuries. In the twentieth century, ecology 'emerged from its roots in biology to become a stand-alone discipline' rather than merely a strand of biological science (Odum 2004, p. 9). 'Environmentalism' is an ethical and political activist movement, broadly defined by its attempts to lessen the negative environmental impact that human activity has upon the planet. The term 'environmentalism' is popularly understood and is frequently used in media accounts concerning contemporary environmental issues. For instance, the term is heavily used in media reports concerning protests such as those performed by Extinction Rebellion,[59] or when referring to the work of individuals such as Greta Thunberg[60] or David Attenborough.[61] In simple terms, the environmentalist movement takes what ecology has demonstrated – the negative impact of human activity upon the environment – and actively seeks to change this negative impact. The environmentalist movement largely seeks to do this through activism

[58] British ecologist Arthur Tansley coined the term 'ecosystem' in 1935.
[59] Extinction Rebellion was founded in the UK in 2018 and self-defines as 'a decentralised, international and politically non-partisan movement using non-violent direct action and civil disobedience to persuade governments to act justly on the Climate and Ecological Emergency' (Extinction Rebellion n.d.).
[60] Greta Thunberg is a Swedish environmental activist who has lobbied global leaders to take immediate action against climate change and spurred the School Strike for Climate #FridaysforFuture protest in 2018, aged 15-years-old.
[61] David Attenborough is a British naturalist and broadcaster who has educated the public on the climate crisis through his audio-visual works and has made multiple widespread calls to action to combat these issues.

activities, for example, by lobbying international governments to act in response to the climate crisis. Such activities have led to the introduction of intergovernmental policies, the signing of climate pledges, and the enactment of laws, such as England's 2019 ban on fracking (Department for Business, Energy & Industrial Strategy 2019). Environmentalism has a deep-rooted history that spans far beyond the movement's increased popularity during the 2010s–2020s. Strong notes that environmentalism 'emerged as a major and influential movement during the second half of the twentieth century' with the 'insight that humans inflict damage on themselves by damaging nature' acting as the 'basic premise' of the movement (Strong 2004, p. 105). The environmentalist movement is continuing to grow in terms of size, impact, and influence. Accordingly, an increasing number of authors write on issues regarding environmentalism; this trend gained momentum particularly from the 1960s onwards. Works such as Carson's *Silent Spring* (1963) played a significant role in highlighting the fact that the ecosystem was at breaking point and that we, as humanity collectively, needed to change our ways in order to sustain the environment that was familiar at the time. As already indicated, for the purposes of this thesis, it is helpful to distinguish between 'ecology' and 'environmentalism' in the following way: 'ecology' demonstrates the problem that needs to be solved, and 'environmentalism' represents the movement attempting to resolve it. With regards to funerary practices, ecological studies evidence the fact that funeral industry activities have a negative impact upon the environment and, coincidingly, the environmentalism movement is increasing public education on issues relating to the climate crisis. Together, these influences are driving momentum for change within the funeral sector, which primarily aims to reduce its environmental impact.

Vertovec notes that the mass media began to pay increasing attention to global environmental issues in the mid-1980s. Such awareness was prompted primarily by events including the Bhopal disaster of 1984 and the Chernobyl disaster of 1986 (Vertovec 2004, p. 1). The Bhopal disaster was caused by a chemical gas leak from an insecticide plant in Bhopal, India. The exposure to methyl isocyanate reportedly killed up to 7,000[62] people within days of the gas leak (Amnesty International 2004). Over 15,000 people died in the years following the Bhopal disaster, and some 500,000 people were left with lasting health problems as a consequence of the exposure to methyl isocyanate, including blindness and gynaecological disorders (Amnesty International 2004). The Chernobyl disaster was caused by a nuclear reactor at Vladimir Ilyich Lenin Nuclear Power Plant (Chernobyl Nuclear Power Plant), Ukraine, suffering a catastrophic explosion.[63] Thirty power plant employees and firefighters died as a direct result of the disaster (World Health Organization 2006); beyond these 'direct' deaths, the lasting impacts of the disaster were, and remain, extremely damaging. The disaster necessitated the evacuation of some 116,000 people in 1986 and the later relocation of some 200,000 people, both from the city of Pripyat and the 30 kilometre radius surrounding the power plant (World Health Organization 2006). Following the disaster, countless people were left with lasting health damage primarily caused by radiation exposure, including birth defects and cancers. The specific scale of the impact of the Chernobyl disaster in terms of the number of individuals affected is almost impossible to measure but innumerable individuals suffer lasting consequences of the Chernobyl disaster to the present day. The Chernobyl disaster is particularly noteworthy for this discussion because the impact of the disaster spanned beyond human life, damaging the ecosystem itself. The impact of the Chernobyl disaster on the

[62] The death toll of the Bhopal disaster is disputed and thus obtaining an exact and accurate figure is difficult to verify. Figures of immediate deaths range from 1,754 to 7,000 (The Bhopal Medical Appeal 2014).
[63] The nuclear power plant had four active plants; 'reactor 4' exploded in 1986. The remaining reactors have since been decommissioned.

ecosystem was felt across Europe – particularly in Ukraine, Belarus, and Russia – as the radiation exposure was not initially contained and thus traces of radiation were found throughout Eastern and Western Europe (World Health Organization 2006). Over thirty years later, the ecosystem in Pripyat and the surrounding area is recovering, though the level of radioactivity still present means that the area remains largely uninhabitable for human life. The 'exclusion zone'[64] remains in place, with guards employed to restrict access to the exclusion zone and only very specific and limited permissions grant restricted access to the area. The impact of the Chernobyl disaster was depicted recently in a David Attenborough documentary film 'David Attenborough: A Life on Our Planet' (2020) and a Ben Fogle documentary 'Inside Chernobyl with Ben Fogle' (2021). Such programmes act as powerful reminders of humanity's impact upon the planet and bring the lasting impacts of such disasters to the forefront of popular consciousness by educating the public during prime-time television.

Disasters with such lasting impacts remain at the forefront of public consciousness, particularly because of their contemporality. These disasters demonstrate that human 'development' can not only damage the natural environment but moreover can cause harm to life and directly force human displacement. More often, we witness the consequences of the climate crisis through adverse weather conditions, which have also caused mass destruction to human life and the environment and are quickly becoming both more commonplace and severe. Concern regarding adverse weather conditions has recently been heightened in the UK, particularly in the form of floods, high-speed winds, and more recently extreme heat. In July 2022, the highest temperature ever recorded in the UK was reached at 40.3°C and the maximum temperature exceeded 30°C across the whole of the UK; the previous record was broken in July 2019, when temperatures reached 38.7°C (Met Office 2022). 'Natural disasters' are events such as floods, earthquakes, or tsunamis that kill or injure a significant number of people. Examples of catastrophic 'natural disasters' are not few and are becoming a more regular feature of life on earth in the twenty-first century. Some particularly damaging examples of natural disasters include the 2010 Haiti Earthquake and the 2004 Boxing Day Tsunami in the Indian Ocean, both of which killed over 200,000 people. Moreover, a prominent example of a natural disaster which caused significant damage is the 2011 Tōhoku Earthquake and Tsunami – two extremely environmentally damaging events that occurred simultaneously. The earthquake and tsunami not only caused structural damage throughout the area, destroying homes and livelihoods, but also prompted a nuclear disaster at the Fukushima Daiichi Nuclear Power Plant, Japan. The earthquake and tsunami caused some 15,000 deaths and the nuclear disaster further forced the evacuation of some 150,000 people. The Chernobyl and Fukushima nuclear disasters are classified with the highest rating of severity on the International Nuclear and Radiological Event Scale,[65] exemplifying the extent of the damage caused.

While 'natural disasters' are indeed naturally occurring events, their frequency has been significantly intensified by global warming prompting climate change, which has been significantly exacerbated by human activity. In the Fifth Assessment Report by the Intergovernmental Panel on Climate Change (IPCC),[66] the IPCC reports to be '95 percent certain that humans are the main cause of current global warming' (IPCC 2014, p. v). The Report found that 'the more human activities disrupt the climate, the greater the risks of severe, pervasive and irreversible

[64] A 30-kilometre exclusion zone surrounds the location of the nuclear power plant.
[65] This scale was developed in 1990 by international experts convened by the International Atomic Energy Agency (IAEA) and the OECD Nuclear Energy Agency (OECD/NEA) 'with the aim of communicating the safety significance of events at nuclear installations' (IAEA 2013).
[66] The Intergovernmental Panel on Climate Change is comprised of 1,300 independent scientific experts from around the world.

impacts for people and ecosystems, and long-lasting changes in all components of the climate system' (IPCC 2014, p. v). The UK's recent 40°C heatwave has been attributed to the effects of 'human-caused climate change', with experts calculating that temperatures would have been 2°C to 4°C cooler without 'human-caused climate change' (Rannard 2022; Clarke, Otto, and Harrington 2022). With human activity reckoned to cause the contemporary demise of the ecosystem, global action is imperative. This global necessity has been recognised, demonstrated perhaps most clearly by the introduction of the Paris Agreement, the first legally binding global treaty regarding climate change. The Paris Agreement is an international treaty defining a collective goal to limit the increase in global warming to 'well below' 2ºC. The Paris Agreement was adopted by 196 parties at the Paris Climate Conference (COP21) on 12 December 2015, and came into force on 4 November 2016 (UNFCCC 2021). The Paris Agreement acknowledged the imperative necessity for collective and collaborative global action in order to drastically reduce the destructive ongoing impacts of climate change. The UK became the first country to legislate on this aim in 2019 with the introduction of The Climate Change Act 2008 (2050 Target Amendment) Order 2019, amending the Climate Change Act 2008 to introduce the 'net zero' target, which is to be achieved by 2050. 'Net zero' means to achieve a balance between the amount of greenhouse gases produced and the amount removed from the atmosphere (Shepheard 2020). COP26 took place in November 2021,[67] hosted by the UK in Glasgow, and set a global agenda on climate change for the next decade. COP26 agreed the Glasgow Climate Pact and finalised the Paris Rulebook. Perhaps the most telling aspect of COP26 was that despite the efforts and commitments of the near-200 countries in attendance, the Conference of Parties (COP) concluded that the effects of climate change will still be felt, as the report stipulates: 'even with the action committed both during and before COP26, communities around the world will continue to feel the impact of our changing planet' (UN Climate Change Conference UK 2021). Hence, the impact and realities of climate change have been globally recognised, and international initiatives that seek to both reduce and slow the effects of climate change are underway.

## BRITISH ENVIRONMENTAL CONCERNS AND GREEN CONSUMERISM

We live in an age in which alertness to the climate crisis is a feature of our everyday lives: we recycle domestic refuse, pay for plastic bags, and are actively encouraged to travel less, paying charges to drive in 'clean air zones'. As such, concerns regarding climate change are more compelling than ever before, with reports concerning the global climate crisis featuring in headlines weekly. One only has to listen to the news or access social media to ascertain the scale at which concerns for the environment are snowballing. The climate crisis is not a matter that will quickly become insignificant, rather, it is an issue likely to continue to gain impact, power, and momentum. Concerns regarding the environment are no longer seen as a problem to be solved at some future point, but rather an immediate problem that needs to be remedied now, and with haste. In a weekly YouGov poll[68] that asks respondents residing in the UK, 'Which of the following do you think are the most important issues facing the country at this time? Please tick up to three',[69] between 20 and 40 percent of respondents cite 'The environment'

[67] COP26 was scheduled to take place in November 2020 but was postponed due to the COVID-19 pandemic. COP26 was held between 31 October 2021 and 12 November 2021.
[68] This poll is conducted weekly by YouGov and thus how these opinions are influenced by events such as COVID-19 can be traced, albeit not in a direct way. YouGov produces a graph tracing the opinions across the year, which is updated every week.
[69] The options provided to respondents for selection are: 'Health'; 'Immigration & Asylum'; 'Crime'; 'The economy'; 'Tax'; 'Pensions'; 'Education'; 'Family life & childcare'; 'Housing'; 'The environment'; 'Britain leaving the EU'; 'Transport'; 'Welfare benefits'; 'Defence and security'; 'None of these'; 'Don't know'.

as one of the top three issues facing the country throughout the dataset considered[70] (YouGov 2022c). Throughout April to December 2021, 'The environment' was considered to be the third most important issue across the entire dataset, only behind 'Health' and 'The economy' (YouGov 2022c). The highest concern for the environment expressed across the entire dataset was recorded on 7 November 2021, during COP26, with 40 percent of respondents citing 'The environment' as one of the top three issues facing the country (YouGov 2022c). According to a separate YouGov poll, 65 percent of British people reported to be 'currently' worried about climate change and its effects in September 2021 (YouGov 2021). Concern for the environment is a consistently pressing issue for those aged between 18- and 24-years-old. Throughout the dataset, between 25 and 51 percent of those aged between 18- and 24-years-old cite the environment as one of the three most important issues facing the country (YouGov 2022c). Correspondingly, when asked 'are you positive or negative about the future state of the environment?', 62 percent of those aged between 18- and 24-years-old responded that they feel negative about the future state of the environment (YouGov 2020). Hence, 'Millennials'[71] and 'Generation Z'[72] are considered to be the major age groups that are driving sustainability, pressurising government action, and actively making environmentally conscious changes to their daily lives. Nonetheless, environmental concerns are generationally widespread as demonstrated in a 2011 study, conducted on behalf of the European Commission, which found that 94 percent of British respondents reported that protecting the environment was important to them personally. Moreover, 91 percent of British respondents agreed with the statement that 'as an individual, you can play a role in protecting the environment' (European Commission 2011). While this study was conducted over a decade ago, given the rising impetus of environmental concerns and persistent media attention on the crisis, this concern is likely to remain widespread. According to findings of the BEIS Public Attitudes Tracker (2023), 82 percent of Britons surveyed reported that they 'were at least fairly concerned about climate change' and 98 percent self-reported that they participate in activities to minimise waste, save energy, and travel more efficiently in their everyday lives. Hence, British popular concern for the environment is evidently widespread. It was confirmed as a fundamental socio-political concern in the UK when Parliament, alongside other countries around the world, declared a climate emergency[73] in May 2019 (UK Parliament 2019b).

Vertovec notes that the rise in environmental consciousness has been manifested in a variety of ways, including by the growth of 'green consumerism' (Vertovec 2004, p. 2). 'Green consumerism' – consumption motivated by pro-environmental[74] considerations – is an increasing consumer tendency. In response to increased green consumerism, the notion of 'green marketing' emerged to prominence in the late 1980s (Acharya and Gupta 2019, p. 6) and gained impetus in the 1990s (Banerjee 2014, p. 69). Green consumerism is a rapidly expanding movement that represents people who are encouraged to 'buy products that are considered environmentally friendly' (Malyan and Duhan 2019b, p. xxiii). As a result of the emergence of 'green' consumerism, both corporations and consumers now seek the provision of green products and services (Malyan and Duhan 2019a, p. xxix); examples of 'green' products include organic food, fair-trade items, and products made of recycled and recyclable materials (Vertovec 2004, p. 2). Such consumer preferences extend throughout industry – from the

[70] This analysis concerns the dataset that runs from 24 June 2019 to 25 July 2022.
[71] 'Millennials' is a term generally used to refer to the generation born between 1981 and 1996.
[72] 'Generation Z' is a term generally used to refer to the generation born between 1997 and 2012.
[73] A 'climate emergency' is defined as 'a situation in which urgent action is required to reduce or halt climate change and avoid potentially irreversible environmental damage resulting from it' (Oxford English Dictionary 2021).
[74] The term 'pro-environmental' refers to when one proactively seeks to reduce one's negative impact upon the environment.

food industry to the motor industry. The importance of recognising the climate emergency and making environment focused change has been acknowledged in recent government policy, which will force positive change. The UK has set a legally binding target for carbon emissions to be 'net zero' by 2050, with an aim to reduce greenhouse gas emissions by 68 percent by 2030, and then by 78 percent by 2035, in order to be on target to bring greenhouse gas emissions to 'net zero' by 2050 (UK Government 2019, 2020c, 2021b). The influence of green consumerism will significantly contribute to the success or failure of achieving this aim. Clearly, corporations will need to provide the consumer with sustainable products for this to be possible, making investment in the production of sustainable products all the more necessary in the UK. An example of such investment currently underway is located in the motor industry, forced by the UK's net zero targets. In the next decade, the motor industry is required to develop efficient and affordable non-diesel and non-petrol cars because the UK Government stipulated that from 2030 new cars powered wholly by petrol or diesel will not be sold in the UK, with only new electric or hybrid cars permitted for sale. Hence, investment is high in the motor industry in order to prepare for this change in the very near future. Furthermore, in the beauty industry, for example, there is now an increasingly popular market for reusable items, such as reusable cotton pads in place of single-use disposable wipes (set to be banned in England), and bamboo toothbrushes in place of plastic toothbrushes. The investment in 'green' technologies is thus increasing across industry in line with the UK-wide aim to achieve 'net zero' by 2050. To achieve this aim, all industries will have a part to play, particularly because consumer demand for 'green' products is only likely to increase with some 50 percent of UK consumers reportedly taking environmental considerations into account when making purchasing decisions at present (The Competition and Markets Authority 2021) and some 46 percent of Britons believing that *individuals* can have a big impact upon tackling climate change (YouGov 2021). Hence, consumer decision making is increasingly likely to involve environmental considerations. How this will extend to the funeral industry is a contemporarily developing context.

But is it simply 'the environment' and the premise of a product being 'environmentally friendly' that sells? The answer is not necessarily straightforward. While many consumers may be more inclined to buy products that are classified as 'environmentally friendly' rather than less environmentally sound products, this is not always the case because consumer inclinations inevitably stretch beyond environmental concerns. For example, accessibility, cost, and functionality are all typical considerations. Hence, in the case of two products that have exactly the same function and cost approximately the same price, the product with the least negative environmental impact may be more likely to sell. In this case, where price and functionality are not considerations, the appeal of a product being 'environmentally friendly' may persuade the consumer to choose the product when making their purchase decision *if* the consumer is inclined to have a minimal environmental impact wherever it is practically possible to do so. Contrastingly, in the case of two products that have exactly the same function, but where the cost differs significantly, many consumers would likely buy the cheaper product regardless of its environmental impact. Therefore, how a product is marketed in terms of brand, cost, and design, will impact upon its ability to sell. Levinson and Horowitz suggest that there are three different audiences to target to facilitate effective green marketing: the 'deep' greens, the 'light' or 'lazy' greens, and the 'non-greens' (Levinson and Horowitz 2016). Urban and Kaiser's (2022) study of environmental attitudes in twenty-eight European countries corroborates the appropriateness of this categorisation of 'green' consumers, by employing the categories of 'high', 'moderate', and 'low' 'propensity' for green consumption. Urban and Kaiser define the 'lows' as 'people who neither intended to purchase nor purchased green products', the 'moderates' as 'people who intended to purchase but did not

purchase green products', and the 'highs' as 'people who intended to purchase and actually purchased green products' (Urban and Kaiser 2022, p. 6). Accordingly, they argue that 'people's environmental attitudes reliably account for the same people's propensity to engage in green consumption within and across countries' (Urban and Kaiser 2022, p. 3). While a full literature review of scholarly work on green consumerism and green marketing is outside the scope of this research, it must be noted that there has been extensive debate in the field of marketing studies regarding the extent of their influence on consumer purchasing decisions. Nevertheless, most studies acknowledge that green consumerism is a rapidly growing phenomenon (Follows and Jobber 2000) and that increased consumer awareness of the environmental impact of their purchases is 'transform[ing] normal consumers into green consumers' (Brochado, Teiga, and Oliveira-Brochado 2017, p. 139).

Together, these insights suggest that the key group to target for successful green marketing is the 'light' or 'moderate' greens who are 'fuelling the growth of […] the green sector' (Levinson and Horowitz 2016, p. 182): those who are willing to 'go green' if it is accessible and simple for them to do so. Effective green marketing is still required to attract those in the 'deep' or 'high' green category, but the 'deep' greens are predisposed to environmentalism, and thus are more likely to *actively seek* to purchase from environmentally sound businesses. Consequently, while a business would need to appropriately demonstrate that it is 'green' in order to appeal to the 'deep' greens, once the 'deep' greens are aware of this fact, they are likely to invest in the company's products. Comparatively, while the 'light' greens may be inclined to purchase a 'green' product if it is easily accessible to them (in terms of cost, availability, functionality, etc), they will not necessarily set out a search for explicitly 'environmentally conscious' companies to do so. Rather, for example, if two products were next to each other in a shop and one product was marketed as 'environmentally friendly' and the other was not, then the 'light' greens may be inclined to buy the product that has been marketed as 'environmentally friendly' because the choice can be made in a simple, and perhaps unconscious, way – it is merely a case of picking one product from the shelf rather than the other. Such marketing techniques extend across industry.

Correspondingly, considering the funeral industry within the frame of green consumerism, it is plausible to suggest that those who opt for natural-woodland burial, for example, are most likely to be located in the 'deep' green consumer category. Those within the 'light' green consumer category are also likely to choose natural-woodland burial after learning about its environmental merits, but the environmental appeal is likely to be coupled with an existing desire to be buried (i.e., the environmental 'selling point' is not *the* major influence of the choice). Moreover, in the case of AH and the process's environmental credentials, the 'deep' greens would be most likely to opt for AH, followed by the 'light' greens, and the 'lazy' or 'non-greens' would be least likely to opt for AH. However, this analysis merely relates to consumer responses to green marketing in relation to the 'selling point' of AH as an environmentally sound process. As such, while the 'non-greens' may not find the eco-friendly nature of AH appealing, they may, for example, find the use of water in the process soothing and therefore appealing – this motivation is discussed in Chapter 4. Thus, these categories only aid our understanding of the effectiveness of green marketing on different consumer groups. In the case of AH, while the environmental credentials of AH are perhaps the most significant selling point of the process, it is not the *only* selling point; many other elements, including cost, availability, and worldview alignment will influence consumer decision-making. Nevertheless, as noted throughout, green consumerism is on the rise and may continue to extend through to the funeral industry. The specific environmental impact of AH compared with other dead body disposal techniques is discussed in the next section of this chapter.

## THE BRITISH FUNERAL INDUSTRY AND THE ENVIRONMENT

As already stressed, this research is situated in a time characterised by universal socio-political awareness of environmental threats and calls to action; but how does death, and consequently the activities of the funeral industry, fit within the environmental discourse? Debates regarding the impact that the disposal of the dead can have on the living are not new – such debates formed much of the cremationists' discourse – however, the global climate crisis has added impetus and a new direction to the issue. The activities of the funeral industry fundamentally impact upon the environment, as with all human action. Processes of corpse disposal require the use of resources and so consequently have an environmental impact, including the most simplistic of disposals. For example, even without the use of shrouds or coffins being taken into consideration, burying a corpse directly in the ground requires the grave to be dug and refilled, and burning a corpse on a pyre requires the use of wood and fuel, to enable the respective processes to occur. Moreover, such disposals fundamentally interact with the ecosystem, through interaction with the soil in the case of burial, and through interaction with the air in the case of cremation – both processes consequently impact upon the water cycle. As such, corpse disposal is now a fundamental environmental issue, necessitating sustainable funerary practices. The severity of the environmental impact of different funerary practices are discussed in the following sections. Progressively, the inherent relationship between funerary activities and their environmental impact is slowly beginning to permeate public consciousness. Steadily, the topic is being covered in the media in newspaper articles, online blogs, and more recently, in radio programmes and podcasts. For example, the popular podcast series 'Jon Richardson and the Futurenauts' featured an episode entitled 'The Future of Death' in February 2021, which discussed the environmental issues posed by funerary practices and posited possibilities for the future of funerals in a time of climate emergency in an accessible and light-hearted way. Likewise, Deborah Meadan's 'Big Green Money Show' featured an episode entitled 'How to Have a Greener Funeral', broadcast on BBC Radio 5 Live in August 2022. Such presence in popular culture is significant because it increases popular awareness of the environmental impact of funerary activities, which is further explored in Chapter 6.

There is an acute and developing awareness of the environmental impacts caused by funerary activities within the British funeral industry. However, resolving and/or reducing the environmental impacts caused by funerary activities is complex, partly because of the personal, emotional, and psychosocial dynamics funerary rituals foster. These dynamics make it difficult to frame certain funerary activities as an environmental 'problem' to be 'solved'. Despite this difficulty, it is an inescapable fact that funerary practices impact upon the environment and so must enter the environmental discourse. Therefore, while acknowledging this sensitivity, the following sections outline the environmental impacts of body disposal practices. To preface the discussion on the environmental concerns associated with funerary practices, it is important to note that no two disposals will be exactly the same, and there are a number of factors which can improve or worsen the environmental impact caused by a disposal. Therefore, the discussion is generalised in the sense of documenting the *typical* environmental impacts of each disposal technique considered. In this section, two independent TNO[75] reports, 'Environmental impact of different funeral technologies' (2011) and 'Environmental effects of different funeral techniques – update of earlier TNO research' (2014), will be used. The 2011 report, by Keijzer and Kok (2011), analysed the environmental impact (eco-

[75] The Netherlands Organisation for Applied Scientific Research (TNO) is an independent research organisation.

footprint) of burial, cremation, cryomation,[76] and Resomation through a Life Cycle Assessment.[77] The 2014 report, by Keijzer, Broeke, and Ansems (2014), performed an updated analysis of the 2011 findings, excluding cryomation. The funerary practices analysed in the TNO studies were considered in their 'average situation in the Netherlands and current state of the technology has been assumed' (Keijzer and Kok 2011, p. 3; Keijzer, Broeke, and Ansems 2014, p. 3). The studies used the AH process as occurs in a Resomator, engineered by Resomation Limited, as the baseline for assessing AH. The 2011 report concluded that the shadow price of the environmental impact of each process per body ranged from approximately €85 for burial, €30 for cremation, €10 for cryomation, and €0 for Resomation (Keijzer and Kok 2011, p. 4). The 2014 report concluded that the difference between burial and cremation was less pronounced than previously considered in the 2011 study, however, Resomation persisted in having a much lower impact than either burial or cremation; the shadow price was calculated to cost €50.83 for burial, €48.47 for cremation, and €2.59 for Resomation (Keijzer, Broeke, and Ansems 2014, p. 44). A summary of the environmental impacts of 'traditional' burial, cremation, and AH, in the form of Resomation, follows.

*BURIAL*

Traditional burial poses a number of environmental problems. Both TNO LCAs define burial as having the most negative environmental impact of all current disposal techniques and prospective AH and cryomation. The shadow price[78] of the environmental impact of burial is calculated as €85 in the 2011 study and €50.83 in the 2014 study (Keijzer and Kok 2011; Keijzer, Broeke, and Ansems 2014). Consequently, the 2011 report cites burial as having the 'largest contribution to climate change' of all techniques (Keijzer and Kok 2011, p. 34). While the difference between the environmental impact of burial and cremation became less pronounced in the 2014 study, burial still has a higher environmental impact than all other forms of body disposal. This is partly due to the involvement of a coffin as a single-use material, the use of imported materials for headstone memorials to mark the grave, the effects of seepage from graves, and required land usage, worsening burial's environmental impact. Traditional burial ultimately results in thousands of slowly decaying coffins being submerged in the ground every year, which usually 'outlive' the corpse in terms of the rate of decomposition. This is particularly problematic because the majority of modern coffins used in traditional burials are not expressly biodegradable. The Environmental Stewardship Group reports that some 85 percent of British coffins are made of particle board (Environmental Stewardship Group 2021c), which, often manufactured with the use of formaldehyde-containing resins and toxic glues, release toxins into the ground when buried. Moreover, the use of imported materials for headstone memorials, typically used following traditional burials to mark the grave, adds to the negative environmental impact of traditional burial; the Environmental Stewardship Group estimates that there are 6,079 tonnes of embodied carbon in granite headstones per annum in the UK (Environmental Stewardship Group 2021c).

[76] Cryomation 'involves immersing a body in Liquid Nitrogen down to a temperate of -196 degrees at which point it becomes extremely brittle. The brittle body is Cryolated into small particles allowing for the removal of any surgical implants and other foreign material. The water is removed by freeze drying, the remains are sterilised and put into a bio-degradable container, ready for burial in a much smaller space than traditional burial. Those remains breakdown to nothing within 12 months, freeing up space for further burials.' (Cryomation n.d.).

[77] A Life Cycle Assessment (LCA) is a methodology used to measure the environmental impact of a product, process, or service, throughout its life cycle.

[78] 'The 'shadow price' for a specific impact category is the amount of money society is willing to pay for the reduction of these effect-causing emissions per unit of impact (for most impact categories, this unit is one kg of equivalent emission (eg. per kg SO2 equivalents for acidification).' (Keijzer and Kok 2011, p. 4).

Two environmental problems posed by traditional burial formed the basis of the cremationists' cause: grave seepage and diminishing land space. As noted in Chapter 1, hygiene and sanitary concerns relating to the spread of disease through seepage from graves were dominant in the UK, when 'a consensus had arisen in the scientific community that miasmas or smell emanating from decomposing bodies were a cause of fever and could be fatal in sufficient concentration' (Rugg and Parsons 2018, p. 22). These hygiene and sanitary concerns primarily related to the spread of disease through seepage from graves, and this was a primary reason that the British cremationists pushed for the introduction of modern cremation in the UK. Concerns relating to seepage from buried corpses persist in the contemporary British context, however, such concerns now primarily relate to the seepage of embalming fluids from buried corpses into the water system, rather than the spread of disease. This is because the seepage of formaldehyde, typically used in the embalming process, has an adverse effect on groundwater. Furthermore, another major environmental issue posed is diminishing land space for burials in the UK. The issue of diminishing land space first arose as an issue in the UK in the 1890s, when cemeteries had become 'landlocked'; these problems were exacerbated by the 'rapid suburbanisation of housing' (Jupp 2006, p. xiv). The concern became a major argument for the introduction of modern cremation, which would 'save the land for the living'. This concern persists in the contemporary British context and is exacerbated by the permanent nature of graves in the UK, coupled with the continued popularity of burial. In the UK, graves are granted in perpetuity when grave spaces are bought; accordingly, once a corpse has been buried, that grave is theirs 'forever'. Hence, it is not commonplace for graves to be re-used in the UK, though this present trend is expected to change. In England and Wales, Section 25 of the Burial Act 1857 makes it an offence to remove buried human remains without permission from the appropriate authorities. Consequently, graves can only be disturbed by authorities under strict conditions. For instance, London burial authorities have the power to disturb graves that are over 75 years old, for the purpose of deepening the grave to allow for further burials. Likewise, the Burial and Cremation (Scotland) Act 2016 enables consideration for grave re-use in Scotland where interment occurred 100 years ago and the grave appears to have been abandoned. Hence, at present, grave re-use is not a practical possibility in the UK, and with such limited scope within the defined laws, the issue of space for future burials in the UK is ongoing.

For the purposes of this thesis, it is important to note that the practice of burial (and all other funerary practices) considered in the TNO studies is evaluated in line with the 'average current situation' in the Netherlands. Hence, it is necessary to underscore that the practice of burial differs in the Dutch context compared with the British context – in the Netherlands, graves are 'leased' and the average grave has a 'rest' period of 10 years before the grave can be re-used (Mathijssen and Venhorst 2019, p. 29). Moreover, embalming is forbidden and corpses must be buried in biodegradable materials in the Netherlands (Mathijssen and Venhorst 2019, pp. 28-29). As such, while the TNO reports did not explicitly consider natural-woodland burial in their LCAs because 'exotic materials or processes such as coffins of special materials or extremely energy efficient cremation ovens were not considered' (Keijzer and Kok 2011, p. 12), it is important to note that the conventional burials considered in the Dutch context by the TNO research are more akin to British natural-woodland burials. This highlights two key issues: (i) if this analysis were to be conducted in the British context, the environmental impact of traditional burial could be much larger due to the more 'permanent' nature of graves and lack of biodegradable coffin use; (ii) the use of a biodegradable coffin or shroud, the absence of a permanent headstone, non-embalmed bodies, and the lack or absence of grounds maintenance at UK natural-woodland burial grounds, would dramatically reduce the overall environmental impact of a natural-woodland burial compared with a traditional burial. However, given

the relatively small number of natural-woodland burials in the UK, in terms of ecologically driven alternatives to traditional burial and cremation, natural-woodland burial cannot drastically contribute to the reduction of the overall environmental impact of British funerary practices. Moreover, the issue of diminishing land space for future burials persists for natural-woodland burial. As such, unless the re-use of graves becomes commonplace, despite the eco-political appeal of natural-woodland burial, it is not a practical solution to the environmental problems posed by 'traditional' disposal methods on the scale of the whole population (Robinson 2023).

*CREMATION*

The introduction of the practice of modern cremation in the UK resolved both the hygiene and sanitation concerns relating to burial and the issue of diminishing land space. Nonetheless, there are a number of environmental problems posed by the practice of cremation, meaning that cremation is deemed to have the second worst environmental impact in the TNO LCA studies. While the 2011 TNO report concludes that the environmental impact of cremation is 'about a third of burial' (Keijzer and Kok 2011, p. 36), the negative environmental impact of cremation is nevertheless significant. The difference between the impact of burial and cremation became less pronounced in the 2014 study because the environmental impact of cremation was deemed to be larger in the 2014 analysis than in the 2011 analysis, with an increase of €18.47 in shadow price to €48.47 (from €30 to €48.47).

The major environmental problems[79] posed by cremation are primarily caused by the release of nitrogen oxides ($NO_x$), specifically nitrogen dioxide ($NO_2$), into the atmosphere. While road traffic is the biggest culprit for the extent of the issues regarding the emission of $NO_x$ in the UK (UK NAEI 2020), the cremation industry is responsible for approximately 1 percent of the UK's $NO_x$ levels, and this percentage could be much higher if the motor industry reduced its pollution. As such, Brookes questions how long it will be before the cremation industry get the question 'well if the car industry can reduce their $NO_x$ emissions, why can't you?' posed to them (Brookes 2019, p. 30). The severity of this impact is demonstrated by a study conducted by Facultatieve Technologies Limited[80] regarding cremation emissions. Facultatieve Technologies carried out tests on cremators and concluded that the 'average' cremation emits 400mg/$m^3$ of $NO_x$. In 'real' terms, Facultatieve Technologies calculated that around 500g of $NO_x$ is released into the atmosphere during a 75 minute cremation process, which is approximately the same as a car travelling 2,280 miles (Brookes 2019, pp. 30-31). The average $NO_x$ emission from a car is reportedly 0.137g/km, and so compared with the emissions from a cremation, this figure is estimated to be the equivalent of 3,650 cars driving past the crematorium during a 75-minute cremation. Therefore, the $NO_x$ emissions produced by a single cremation process are comparable to '50 cars a minute, every minute' driving past the crematorium during that cremation, which is quite an astonishing comparison (Brookes 2019, pp. 30-31). Cremation is moreover responsible for 16 percent of the UK's mercury emissions, making crematoria the largest single source for mercury emissions in the UK (UK NAEI 2020). Legislation regarding the environmental impact of crematoria was first implemented in the UK under the Environmental Protection Act 1990, with additional legislation following over recent years. Progress has been made and attempts to reduce the environmental impact of cremation have been successful to some extent through the installation of $DeNO_x$ systems and the

[79] Obtaining data regarding the cremation industry's emissions is difficult; the UK NAEI data selector (https://naei.beis.gov.uk/data/data-selector) provides some insight, but the data is not presented in an easily accessible format.
[80] Facultatieve Technologies Limited is company that provides cremation and incineration equipment, see: https://www.facultatieve-technologies.com/.

implementation of regulations regarding the emissions produced by crematoria, initiated by the Environmental Protection Act 1990. However, while such technologies have reduced the emission of $NO_x$ produced by British crematoria, the environmental problems caused by cremation persist. Hence, despite the productive installation of $DeNO_x$ systems and the implementation of other environmental initiatives at many British crematoria, the overall negative environmental impact of cremation remains substantial. While traditional burial is more damaging to the environment than cremation – as demonstrated by the TNO reports – considering that cremation covers some 80 percent of British funerals (Cremation Society of Great Britain 2022), in terms of relative scale, it poses a much bigger impact upon the environment and so its negative impact is only likely to increase unless further action is taken in the UK (Robinson 2023).

### *ALKALINE HYDROLYSIS*

AH has been independently verified as an environmentally sound method of dead body disposal. The 2011 TNO report concludes that 'the impact of resomation is (probably) the lowest of all funeral techniques' (Keijzer and Kok 2011, p. 54). Moreover, the 2014 report concludes that 'all sensitivity analyses showed that resomation has the lowest environmental impact of the three techniques, even if the eutrophication effects of the wastewater treatment would be bigger than they seem now' (Keijzer, Broeke, and Ansems 2014, p. 7). AH significantly reduces the negative impact that the process of body disposal has on the environment compared with traditional burial and cremation. This is because the AH process uses '90 kWh of electricity, resulting in one-quarter the carbon emissions of cremation, consuming one-eighth the energy, while costing the consumer roughly the same as cremation' (Rothstein 2013, p. 262) and produces 'no airborne emissions' (Resomation Limited n.d.-b). AH's carbon footprint is reportedly some 35 percent less than cremation and over seven times less than burial (Keijzer and Kok 2011, p. 36; Resomation Limited n.d.-b). Significantly, unlike cremation and traditional burial, the AH process does not permit the use of a non-biodegradable coffin. Before being placed in the Resomator, the body is placed in a biodegradable coffin or shroud made from materials such as silk or wool which immediately reduces the environmental impact of the process compared with other techniques.

Some concerns have been raised regarding the safety of the processing of the residual fluid following AH due to its alkalinity levels, but various scientific analyses of the AH process have proven such concerns to be unsubstantiated. As previously noted, after the AH process, the pH value of the residual fluid is assessed – and, if necessary, is chemically treated with acid – to ensure the effluent is sterile and at the appropriate pH to enter the water system via the standard wastewater treatment systems. Independent scientific reports concerning the AH process's aqueous outputs consider the residue safe for treatment via the wastewater treatment system in the UK. Such reports include the findings from the Resomation Case Study (2019) and a TNO Safety Analysis of AH (2018). As noted in Chapter 1, a Resomation 'Case Study' took place in April 2019. As part of the study, samples from the five separate 'Resomations' carried out at the Sheffield University-based Resomator installation were analysed by experts at Middlesex University, working closely with Yorkshire Water to ensure that the methodologies and parameters used were fitting with the requirements of the UK water industry (Lundy, Linneker, and Bradshaw 2019). The results of the study found that the effluent from the AH process does not pose 'any significant concern […] to receiving sewer systems […] for sewer systems, wastewater treatment plants, their related operations and receiving water quality subject to normal sewerage network and wastewater treatment works capacity considerations' (Lundy, Linneker, and Bradshaw 2019). Following the compilation of the results

of the study produced by Middlesex University and Yorkshire Water's independent analysis of the findings, in September 2019, representatives of Yorkshire Water visited Bradshaw Funeral Services in Minnesota, USA, to see Bradshaw's AH system running in situ and learn more about the practicalities of AH 'as part of its commitment to due diligence and open and transparent practices' (Smith and Cottam 2019). Their site visit demonstrated that the 'practical, scientific and technical aspects witnessed align with the results of the Study and analysis undertaken in the UK; providing further evidence that there is no reason why the post-process effluent should not be discharged to the wastewater network as trade effluent, provided adequate capacity is available' (Smith and Cottam 2019). Moreover, an independent TNO report (2018), which conducted a safety analysis of the Resomation AH process, concluded that the 'impact of the effluent supplied from the resomation process on the influent of a wastewater treatment plant is negligible' (Reinders and Spruijt 2018, p. 27). Hence, the residual fluid from the Resomation AH process has been independently assessed by multiple institutions and deemed as suitable to be discharged to the sewer 'for processing for standard water treatment methods' in the UK (Sensi 2020).

Consequently, the only major concern that may be raised with regards to AH's potentially negative environmental impact is the volume of water required to carry out the process. AH uses around 1,500 litres of water in total per corpse during the process, which seems a sizeable requirement; however, compared with the typical water consumption of a British individual per day, the scale is not so significant. According to Waterwise (2012), the average British individual uses around 150 litres of water every day, which increases to 3,400 litres of water per day if embedded water[81] is taken into account. Moreover, the 2014 TNO report notes that 'it is striking that resomation has the lowest value for water depletion' over burial and cremation, despite the volume of water required for the process (Keijzer, Broeke, and Ansems 2014, p. 39). Hence, overall, AH holds an advantage compared with other 'traditional' disposal techniques, as the TNO reports demonstrate (Keijzer and Kok 2011; Keijzer, Broeke, and Ansems 2014). Furthermore, since the issues of diminishing land space and polluting groundwater through grave seepage are avoided, it can be argued that AH is a more scalable sustainable corpse disposal process than natural-woodland burial in the British context (Robinson 2023). Correspondingly, historic arguments posited by cremationists that posed cremation as 'the purifier' rather than a 'polluter' may now be flipped on their head to form arguments against cremation, as Prothero notes: 'Whether expressed in the idiom of miasma or the idiom of germs, the crux of the sanitary argument [for cremation and rejecting burial] remained the same: burial was polluting and cremation purifying' (Prothero 2001, p. 55). We now know that cremation is polluting, though perhaps symbolically purifying; hence, adopting this narrative, AH may be framed as the 'pure', non-polluting means of body disposal for the twenty-first century, as cremation was previously deemed to be.

## HOW HAS THE BRITISH FUNERAL INDUSTRY ADDRESSED ITS ENVIRONMENTAL IMPACT?

Having defined the environmental problems posed by contemporary funerary activities, the discussion now turns to debate how these problems can be addressed and provides examples of some initiatives within the British funeral industry that seek to address them. While change within the British funeral industry has largely spanned centuries rather than decades, funerary change in response to contemporary social concerns is not a new

[81] 'Embedded water' or 'virtual water' 'is the water "hidden" in the products, services and processes people buy and use every day', such as food and fashion products (Water Footprint Calculator 2019).

phenomenon in the UK. As already explored, cremation emerged as an alternative disposal method to traditional burial in Britain in the 1880s, driven in part by public sanitary and health concerns. Since then, natural-woodland burial has, from the mid-1990s, been the only significant change, itself partially influenced by ecological-environmental factors. Now, AH is emerging in the UK, commercially framed by the unique selling point of being considerably more environmentally friendly than the 'traditional' disposal methods of burial and cremation. But is the British funeral industry ready for further change?

A few years ago, the answer to the above question may have been 'not yet' but, during the timeframe of this PhD, there seems to have been a positive change in the 'mood' of the British funeral industry. Insight gained via attendance at British funeral industry events during 2020–2023 suggests that the industry is becoming increasingly involved in conversations regarding environmentalism and sustainability, and the need to act in response to the climate crisis has been recognised. While discussions regarding environmental issues have featured in industry event programmes over the last half century, the issue has increasingly gained attention in recent years. Examples of historic coverage is found in analysis of the Cremation Society's Annual Conference programmes from 1968 to the present, which have mostly included at least one paper discussing environmental issues. Papers have covered a range of topics, from issues relating to gardens of remembrance and cremated remains,[82] to changing cremator fuels,[83] to the 1990s heavily weighted focus on the Environmental Protection Act, and to alternative technologies, including presentations from Resomation Limited (2006; 2007; 2009; 2010; 2013, 2016). Despite this coverage, I argue that the momentum driving environmentalism within the British funeral industry has shifted in close parallel with this thesis's trajectory. In March 2019 and March 2022, the first industry-wide one-day seminars concerning the 'Impact of Burial and Cremation on the Environment' took place, jointly organised by the Association of Private Crematoria and Cemeteries, the Cremation Society of Great Britain, the Federation of Burial and Cremation Authorities, and the Institute of Cemetery and Crematorium Management. Having attended the second seminar in March 2022, I can account for how heavily subscribed the day was, alongside attendee's appetite for further events on the topic. The one-day seminars acknowledged both the platform and attention that the environmental issue requires and the need for collective action within the British funeral industry in order for remedies to be actioned. The need for collective action is underscored by the joint organisation of the seminars by major British funeral industry institutions. The one-day seminars, which focused solely on the environmental problems associated with funerary activities, were the first of their kind in the British funeral industry.

While the issue of COVID-19 is discussed later in this chapter, here, it is significant to note the opportunities for industry education that were afforded by the conditions of the pandemic: namely, the unintended consequence of online engagement. Especially gaining momentum in 2021, various stakeholders within the British funeral industry hosted online educational webinar series during the pandemic, many of which focused on environmental matters. For example, in February 2021, the FBCA co-hosted a webinar entitled 'The Climate Emergency: What changes can crematoria, funeral directors and cemeteries make to protect our environment?' (OpusXenta and FBCA 2021e), which was the first of a five-part series on topic of the funeral industry and the environment (OpusXenta and FBCA 2021a, b, c, d, e). During the webinars, the information that was presented may seem quite obvious to those within the industry, for example, the facilitators emphasised that the use of imported granite to

[82] For example, Denbin (1969) 'Soil Problems Associated with the Distribution of Cremation Ashes'.
[83] For example, Rammer (1976) 'Electric Cremation Furnaces: The technology and today's cremation practices in Switzerland'.

the UK for headstones has a detrimental environmental impact. However, this does not reduce the importance of sharing such information and making it widely accessible. The webinar series is available to watch online on-demand at no cost, meaning that technically any individual who may be intrigued can watch, including those who may have no understanding of how funerary practices impact upon the environment. Moreover, access is not restricted to those within the funeral industry, albeit those within the industry are most likely to access the information via this platform due to the nature of the companies involved in facilitating the discussion. The ICCM also hosted several webinars for its members, beginning during the pandemic and continuing beyond it. Some of the 2021 ICCM webinars discussed innovative methods of dead body disposal, including natural-woodland burial, Resomation, and Precision Organic Dispersal (ICCM and PlotBox 2021a, b, c). The spread of such knowledge is significant because it facilitates the opportunity to raise popular awareness, both within the funeral industry and further afield. Such educational webinars moreover remind those *within* the funeral industry that the industry currently has a largely damaging environmental impact. Clearly, the funeral industry will always have *an* impact upon the environment – reducing the use of resources to zero is a practical impossibility – however, the nature of this impact is currently negative. As this chapter has shown, this negative impact can be drastically reduced if the funeral industry implements change, which both webinar series acknowledged.

A further example of an environmental initiative within the British funeral industry is the formation of a multi-organisational Environmental Stewardship Group (ESG). The ESG was formed in 2020 to 'provide a focal point for collaboration across the sector and to lead it towards sustainability' (Environmental Stewardship Group 2021a) 'in response to the Climate Emergency declarations, and the recognition that the sector has a substantial part to play in addressing the environmental concerns affecting the UK' (Environmental Stewardship Group 2021b). The ESG officially launched on 1 March 2021 (Environmental Stewardship Group 2021b; The CDS Group 2021). The formation of this group is exceptionally progressive for the funeral industry, recognising and actively working to change its negative impact upon the environment. Its formation is particularly noteworthy because the momentum driving it and its establishment originated from *within* the funeral industry, and thus the necessity for change has been internally acknowledged. As with the FBCA and ICCM webinars, the launch event of the ESG is available to watch online on-demand at no cost, which provides a further opportunity to raise awareness of these issues (Environmental Stewardship Group 2021d). The launch event significantly highlighted the collaborative effort needed to reduce the impacts currently caused by the funeral industry. This was particularly emphasised in the choice of the event's keynote speaker, Lee Rawlinson, Director of Regulated Industry at the Environment Agency, which extended the span of those involved to government bodies with significant influence. Change within the industry may be most likely to be widespread when it is forced by government legislation and regulations, such as those relating to the UK's net zero target; however, this new pressure from within the industry is likely to prompt significant change itself. The ESG published its inaugural 'state of the sector' report on 13 December 2021. The report outlines 'the next steps in tackling the environmental challenges within the sector' and emphasises that 'it is absolutely critical that the sector, as a whole, takes its next steps and quickens the pace of change in order to meet the deadlines laid out before us and before legislation forces change upon the sector' (Environmental Stewardship Group 2021c). When I began research on AH in 2018 during my BA and MA degrees, the prospect of such progress seemed a very distant reality. Now, the funeral industry, and its leaders, have collectively acknowledged that action is needed and are working towards implementing positive change. This is a unique and developing context, which will be an important footnote throughout this thesis.

*CASE STUDY:*

*HUNTINGDON TOWN COUNCIL CREMATORIUM AND CEMETERY*

Changing priorities and demands in response to the climate crisis are evident within the British funeral industry. To illustrate how such changes have manifested, the example of Huntingdon Town Council Crematorium and Cemetery is an interesting case study because of its explicitly eco-conscious influences as a self-defined 'environmentally friendly' crematorium. The insights presented in this case study are drawn from presentations delivered at two funeral industry events by Philip Peacock, Huntingdon Town Council Clerk, in 2021 and 2022. The case study was initially compiled in February 2021, following a presentation of plans for the crematorium during an OpusXenta and FBCA webinar, and was revisited following the official opening of the crematorium and report of the project's success at CBCE in June 2022. As such, the case study details the current state of the crematorium alongside the 'hopes' for the crematorium which were presented to the funeral industry in 2021.

As already noted, Huntingdon Crematorium self-defines as an 'environmentally friendly, sustainable and multi-denominational' crematorium (Huntingdon Crematorium n.d.). In its plans for the crematorium, Huntington Town Council noted that 'sustainability' and 'the environment' were at the heart of the plans for the crematorium. In February 2021, the Council explained that the crematorium would contain the 'first all-electric, carbon neutral cremator in the UK' and it would be powered by a green energy[84] supply (Huntingdon Town Council 2021). Since opening, Peacock confirmed that the crematorium has installed two electric cremators (Peacock 2022). The use of electric cremators will reduce the emissions produced by Huntingdon Crematorium compared with other crematoria because electric cremators reportedly release some 50 per cent less $NO_2$ and up to 90 per cent less carbon emissions into the atmosphere than a conventional gas cremator (The CDS Group 2020). Moreover, in attempt to reduce its negative environmental impact, the Council's plans stipulated that the crematorium will: use green energy tariffs; compost flowers, grass cuttings and hedge trimmings; use waste heat from the crematorium to heat its 'glasshouses' which will grow 'the town's supply of plants for the summer and winter schemes'; rainwater will be harvested to water the plants; solar panels will be installed on the building to charge the battery-powered equipment; and there will be charging points for electric vehicles in the carpark (Huntingdon Town Council 2021). Peacock noted that the Council sees the use of the 'waste' heat for growing plants in the greenhouse as enabling 'new life' from the life lost by 'growing something new' (Peacock 2022), which is an interesting interpretation to consider in light of the issues discussed in Chapter 5. All of the initiatives detailed in the plans have been implemented at Huntingdon since its opening (Peacock 2022). Notably, Huntingdon Town Council was granted planning permission for the crematorium and cemetery in January 2019, beating private competitor Dignity for planning permission. While Dignity's plans for a crematorium in Huntingdon have since been approved following an appeal process, the Town Council's environmental focus is likely to be a primary reason for its plans initially gaining permission over Dignity's plans for a 'standard' crematorium.

Interestingly, the Council considered investing in AH technology in its planning of the crematorium, however, AH was deemed 'a step too far' for the councillors to 'digest and take on'. Peacock explained that 'at this particular stage, going electric was as far as they [the councillors] would go' (OpusXenta and FBCA 2021e). The Council could have made quite an impact by not only being the UK's first crematorium to have an 'all-electric, carbon

[84] Suppliers of 'green energy' tariffs promise to match some or all of the electricity its customers use with renewable energy that is then fed back into the National Grid.

neutral cremator' installed within, but also to commission the UK's first Resomator. This did not happen, though AH has reportedly not been removed from the Council's agenda, and thus the installation of a Resomator at the crematorium could occur in the near future. Monitoring how councils throughout the UK respond to propositions for the provision of AH will be an important task over the course of the next few years. Moreover, tracing the uptake of services at Huntingdon Town Council Crematorium and Cemetery may provide further insights regarding the appeal of the environmental initiatives, particularly if there is a notable difference between the popularity of the 'green' crematorium and cemetery of Huntingdon Town Council compared with Dignity's 'normal' crematorium in the same town.

Plans such as those of Huntingdon Town Council's Crematorium and Cemetery are likely to become more common in the future, whether such plans are to build new crematoria or to change the way that existing crematoria function, for example, by replacing a gas cremator with an electric cremator. As previously mentioned, the UK has a legally binding target for carbon emissions to be 'net zero' by 2050 (UK Government 2020c). However, neither crematoria nor the funeral industry more generally are included in 'The Ten Point Plan for a Green Industrial Revolution' (UK Government 2020b). Considering the funeral industry's negative impact upon the environment as outlined in this chapter, the funeral industry ought to be on the UK Government's agenda, particularly in relation to its aims for the country to become net zero. Without appropriate legislation and regulations forcing change to be implemented within the funeral industry, such changes are likely to be slow. However, the formation of the ESG is likely to heighten the urgency for positive change within the industry, and the Environment Agency's involvement in the launch of the ESG is notable for this reason. As the British population become more aware of the funeral industry's environmental impact, those crematoria and cemeteries that have invested in becoming 'greener' will likely become consumers' preferred choice of venue for funerals. Indeed, this may occur without increased public knowledge of the funeral industry's impact, merely the 'green' marketing of such venues could be an incentive.

*CASE STUDY: DIRECT CREMATION*

As already stressed in this chapter, the notion of a product being 'environmentally friendly' is an increasingly attractive 'selling point' that is driving consumer purchasing decisions. This trend has been noted by countless companies, and its span of influence is undoubtedly extending to the funeral industry. The scope of the availability and advertisement of 'environmentally friendly' funerary options in the UK is discussed in depth in Chapter 6. Nonetheless, here, it is worth noting how the practice of direct cremation[85] is entering the environmental discourse as many service providers offering direct cremation now advertise direct cremation as an 'eco-friendly' alternative to 'traditional' cremation. For example, Pure Cremation advertises that direct cremation has a 'lower carbon footprint' than 'traditional' cremation on its homepage (see 'The Pure way: A direct cremation and separate celebration' on https://www.purecremation.co.uk/). However, despite this form of green marketing, the specific environmental benefit of a direct cremation compared with other disposal methods is not straightforward to calculate. The following two sections briefly outline the reasons why this is the case and show how direct cremation has been marketed as an 'environmental' choice.

[85] Direct cremations typically have no mourners present, with no formal funeral service occurring prior to the cremation itself. The date, time, and (sometimes) location, of the cremation usually remains undisclosed to mourners.

In a blog on its website, Pure Cremation details that a 'Pure Cremation' emits 'just 81Kg ± of $CO_2$ compared to the typical average of 180-190kg, making it even lower in emissions than a woodland burial' (O'Rourke 2022). While the actual practice of cremation in a direct cremation is no different to that in a 'traditional' cremation, direct cremations do not usually have a formal service prior to the cremation, thus the travel of mourners to the crematorium, production of service sheets, and use of flowers, for example, are all prevented. Hence, the lack of a formal funeral service reduces the use of resources in this regard, thereby reducing the overall environmental impact of direct cremation compared with a 'traditional' cremation with a service. Nonetheless, it is noteworthy that with direct cremation, there is the opportunity for the kin themselves to host a memorial (or similar) service, which may have comparable environmental impacts with hosting such a service at the crematorium in terms of the pollution caused by travel and resources used. With direct cremation, a biodegradable coffin – made of cardboard, for example – may be more likely to be used than in a 'traditional' cremation, since the coffin need not be 'presented' to mourners. As previously noted, the use of a sustainably sourced coffin made of biodegradable materials reduces the overall environmental impact of a funeral compared with, for example, a funeral involving a 'traditional' burial that uses a solid wood coffin. However, there is debate concerning how the use of a biodegradable coffin effects the efficiency of cremation because it reduces the 'fuel' that facilitates the cremation process. Some argue that the use of a biodegradable coffin increases the amount of gas required to power the cremator compared with a 'traditional' wooden coffin, which may thereby worsen the environmental impact of cremation. How the use of a biodegradable coffin for cremation effects the overall environmental impact of the funeral has not been independently studied. Nevertheless, 'traditional' cremation also allows for the possibility for coffins made of biodegradable materials to be used, so the debate is somewhat negligible here. Furthermore, while most 'traditional' cremations will take place locally to where the individual died, some service providers of direct cremation use one specific crematorium for all the direct cremations they conduct – including Pure Cremation, for example – thus, in these cases, corpses may be transported from across the country to one specific location. In such cases, this would add to the environmental impact of cremation, perhaps to a greater extent than a few mourners travelling from local surrounding areas to a local crematorium. Hence, to perform an exact and valid direct comparison of the environmental impacts of 'traditional' and 'direct' cremation is complex, given the variables involved. Nonetheless, if one compares a 'traditional' cremation with a direct cremation that occurs at the same crematorium, then it is plausible to conclude that the direct cremation would most likely be more environmentally friendly than the 'traditional' cremation with a service.

Regardless of the actual environmental impact of direct cremation, the green marketing techniques used by service providers of direct cremation emphasises the appeal of services and products that have a reduced negative environmental impact. Such marketing is not incidental, but rather purposeful. Companies have marketing budgets and employ marketing executives in order to increase their appeal to consumers; the funeral industry is no different. This illustrates how the environment is high on the public agenda and that the attachment of the 'environmentally friendly' idiom incentivises 'sales' in the modern age in most industries, including the funeral industry. Hence, it is increasingly likely that as time moves forward and contemporary concern for the environment continues to rise in significance, more people are likely to opt for eco-conscious funerary options where possible. Nonetheless, as stressed throughout, appropriate education of the environmental impact of various funerary activities will be required to facilitate informed green consumerism within the funeral industry.

## THE COVID-19 PANDEMIC, ENVIRONMENTALISM, AND FUNERALS

This thesis has been written during the COVID-19 pandemic and its outcomes will undoubtedly be influenced by the lasting impacts of it. The COVID-19 pandemic has had devastating impacts, with the scale of mortalities and hospitalisations as a direct consequence of COVID-19 almost impossible to comprehend. The pandemic profoundly affected the British funeral industry, not least due to the immense number of deaths and consequently funerals, putting funeral professionals under major pressure throughout the height of the pandemic and beyond it. The pandemic has moreover reinforced the place of environmental concern as firmly high in the priorities of the contemporary world. To illustrate how, the following sections discuss the impacts of the COVID-19 pandemic upon the environment and the funeral industry globally, with a primary focus on the British context.

The COVID-19 pandemic has been perhaps the most significant 'natural'[86] event to have had a major global impact in modern times. Many commentators have described the COVID-19 pandemic as the worst crisis that humanity has faced, certainly since the Second World War; this is particularly notable because in 2020, the UK recorded the most 'excess' deaths since the Second World War (Triggle 2021). While we have witnessed the disastrous effects of epidemics in the recent past – notably caused by Ebola and Swine Flu, both of which had significant global impacts, with infections spreading beyond their country of origin – the COVID-19 pandemic is *absolutely* global in that the virus has spread to every continent in the world. Although the severity of the impact of COVID-19 has differed depending on the context in which one is situated, it has undoubtedly had a lasting, and ongoing, global impact. The UK has witnessed three national 'lockdowns' to date, with countless 'local' restrictions implemented in addition to these national restrictions,[87] since March 2020. The health effects of the COVID-19 pandemic have been particularly disastrous in the UK context. At the time of writing, 221,591[88] people have died with COVID-19 in the UK (UK Government 2023). Moreover, the number of individuals who have been seriously ill and hospitalised with COVID-19 is vast. The NHS has been at breaking point, with hospital beds filled to capacity, causing routine surgeries and consultations in hospitals to be cancelled. To help sustain the severely increased demand of services and changes to operations for staff and patient safety, retired doctors, nurses, and other healthcare professionals came out of retirement to volunteer their time to support the NHS at its time of immense struggle. This voluntary effort continued through to 2021, with the addition of non-healthcare professionals volunteering in the vaccination scheme in the UK. The scale of the impact of the COVID-19 pandemic in the UK was not publicly predicted, and its lasting impacts are still to be seen. COVID-19 has undoubtedly affected every person in the UK in some way – whether this be the experience of restrictions, being ill with COVID-19 themselves, or losing a member of kin during the pandemic.

[86] The reference to the term 'natural' is to emphasise that COVID-19 has been classified by many as a natural disaster, in contrast to an event which is directly caused by human decision-making, such as a war.
[87] There have been some differentiations in the experiences of restrictions in the devolved nations of Scotland and Wales, compared with England.
[88] This is the total number of deaths recorded in the UK with 'COVID-19' stated on the death certificate. An alternative way of measuring COVID-19 deaths in the UK is to measure deaths which occurred within 28 days of a positive test result for COVID-19. The measure of deaths with 'COVID-19' on the death certificate has been used since the pandemic began, before testing was widely available, which is my reason for citing this figure. Both measurements are used by the UK Government.

While hospitalisations and mortalities have had disastrous impacts globally, which cannot be ignored nor forgotten, the COVID-19 pandemic brought the environment to the forefront of discussions when the impact of 'stay at home' messages was positively represented in a decline in pollution globally. This was exemplified most clearly in the context of China. COVID-19 was first detected in Wuhan, China, in December 2019, though the news regarding the new founded virus surfaced globally in early January 2020. When COVID-19 was detected, China took drastic action, closing its boarders, and instructing its population to isolate at home. China, which is the world's largest manufacturer and exporter, was forced to halt industry production as a direct result of COVID-19 and its infectious nature – particularly due to the unknown nature of COVID-19 when it first emerged. In March 2020, images surfaced from NASA demonstrating the direct impact that COVID-19 restrictions imposed on the Chinese population were beginning to have upon the environment. NASA's Earth Observatory's 'Image of the Day' on 2 March 2020 positively showed a significant decrease in $NO_2$ in China. The $NO_2$ levels reportedly dropped by some 60 percent between the period of 1 and 22 January 2020 and the period of 23 January and 29 February 2020 (Shi and Brasseur 2020). The images are quite powerful and highlight what positive impact stopping and/or reducing typical activity can have upon the environment; see Figure 2. As a direct consequence of COVID-19, the world was forced to slow down – reduce travel, exports, the use of resources, the list goes on – and this had a positive impact upon the environment. The images are particularly powerful because China is the world's largest manufacturer and exporter: the images therefore represent perhaps the most polluting country in the world drastically reducing its pollution levels. This exemplifies that even the world's manufacturing giant is capable of reducing its pollution levels in such a dramatic way if changes are made, leading to the question of why such pollution levels cannot be reduced at least slightly outside of pandemic times. Climate change is ultimately irreversible – too much damage has already been done – however, many see the effects of climate change, which has been dramatically sped up by human activity over the last fifty years, as impossible to slow down. These images demonstrated that it is in fact possible for humanity to reduce its negative impact upon the planet with changes in behaviour, in a way that had not been quite so apparent previously. Although the extremity of COVID-19 restrictions have been lifted, and life has 'returned to normal', what 'normal' is may still be re-evaluated, and we may witness more vast attempts to reduce pollution globally in order to slow the impacts of climate change. Perhaps the pandemic levels of reduced pollution are merely unattainable in 'normal' times due to economic necessities, however, the consequences of COVID-19 restrictions – albeit incidentally – demonstrated that a reduction in pollution is possible in the modern world and may set precedent moving forward.

Perhaps, in many ways, the COVID-19 pandemic acted as a catalyst for raised awareness and concern regarding human life on the planet. Unintentionally, as a global population, we significantly reduced our negative environmental impact upon the planet during the COVID-19 pandemic. The acts have been incidental – national restrictions on movement and industrial activities implemented by governments globally were not enacted with the purpose of reducing humanity's negative environmental impact, but rather to prevent the spread of infection. Due to the fear surrounding the spread of COVID-19 and the implementation of national restrictions, many businesses moved their workforce to be mostly, or completely, remote. Such changes have had a beneficial impact upon the environment and have set precedent. For example, having thousands of people in global offices every working day has proven to be unnecessary. First drafting this section in early 2021, I proposed that businesses

may continue to have a blended experience of employees working from home and being on-site where possible beyond the experience of COVID-19 restrictions. Revisiting this section in 2023, it is evident that this supposition has indeed been the case in many industries since restrictions eased in the British context. Such acts drastically reduced the number of cars on the road and particularly the volume of 'rush hour' traffic. Moreover, during the COVID-19 pandemic, air travel reduced by 60 percent globally; by April 2020 the overall number of air travel passengers had fallen by 92 percent from 2019 levels (United Nations 2021). Most countries issued travel bans and restrictions during the COVID-19 pandemic, meaning that holidays abroad were prevented, and international conferences, for which people would usually travel thousands of miles to attend, were forced to move online. This prompted a public questioning about how 'necessary' particular journeys are. While there was a 'travel boom' when the COVID-19 pandemic settled and travel bans and restrictions were lifted, some aspects of global travel may reduce in post-pandemic times. For example, international conferences such as inter-governmental meetings, where travel to and from abroad typically occurs in the same day, may remain virtual or hybrid in nature. Whatever the post-pandemic trends in human activity are, the COVID-19 pandemic has certainly demonstrated that positive changes to benefit the environment are indeed possible. However, it must be noted that despite the initial reduction in emissions as a consequence of multiple 'lockdown' restrictions imposed across the globe in attempt to stop the spread of COVID-19, recent data revealed that this reduction was only temporary and the majority of sectors are emitting the same, or more, greenhouse gases than before the pandemic began (UNEP 2021).

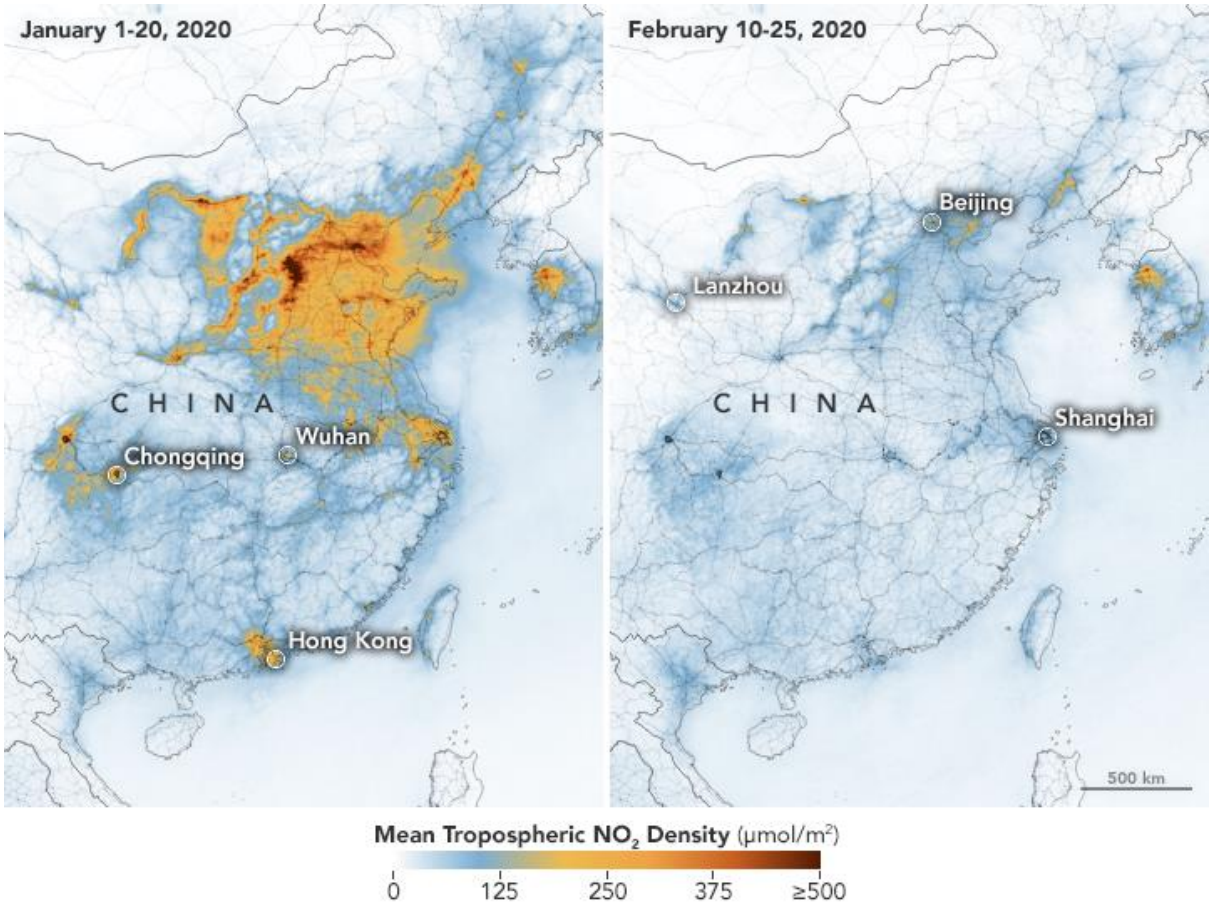



Figure 2. These maps show nitrogen dioxide values across China from January 1-20, 2020 (before quarantine) and February 10-25 (during quarantine). The data were collected by the Tropospheric Monitoring Instrument (TROPOMI) on ESA's Sentinel-5 satellite (NASA 2020).

Moreover, the COVID-19 pandemic put the environment high up on the agenda through the consideration of the impact that the disposal of single-use face coverings and other items of personal protective equipment may have upon the environment. With face coverings mandatory in shops and supermarkets in the UK from 24 July 2020 (UK Government 2020a), and later workplaces and other hospitality venues,[89] not only was the ease of access to such face coverings questioned, but their environmental impact was also debated. Reusable face coverings became commonplace over disposable face coverings (outside of healthcare settings), with emphasis placed on their sustainability compared with a non-recyclable item that needs to be disposed of within hours of first using it. Despite the public's hyper-awareness of the COVID-19 pandemic as a major public health concern, concerns for the environment did not diminish substantially during the pandemic period. During the COVID-19 pandemic, while the percentage of people who cited the environment as one of the most important issues facing the country declined slightly,[90] the environment nonetheless remained a priority. YouGov analysis reports that 'despite the global pandemic, Brits still view protecting the environment as a top priority for the country', with about a quarter of British people (24 percent) reporting the environment to be one of the most important issues facing the country. The 'environment' was the fourth highest priority reported by Britons at this time, behind the economy (57 percent), health (57 percent), and Britain leaving the EU (43 percent) (FitzPatrick 2020). Hence, while the COVID-19 pandemic arguably became the most important public issue of recent times, the environment remained one of the most important issues facing the country according to the British public, despite other pressing concerns.

### *COVID-19 AND THE ENVIRONMENTAL IMPACT OF FUNERALS*

Partly because of the sheer scale of mortalities caused by COVID-19, the negative impact that funerary activity has upon the environment was unprecedentedly emphasised during the pandemic. This was most clearly seen in the case of Los Angeles, USA. Due to the immense number of deaths in the USA as a result of COVID-19 infections – double the normal rate – the South Coast Air Quality Management District (South Coast AQMD) issued an emergency order on 17 January 2021 to suspend limits on the number of cremations that were allowed to be performed due to capacity being exceeded in Los Angeles (South Coast Air Quality Management District 2021). Normally, the South Coast AQMD permits for crematories[91] contain limits on the number of cremations that may be performed each month based on potential air quality impacts, but these limits had to be suspended. While this ruling exemplifies the devastating number of deaths in Los Angeles that were caused by COVID-19, which cannot be ignored, the ruling also highlights that such limits on volume are necessary in order to minimise the impact upon the environment caused by cremation. This therefore put the funeral industry and its environmental impact at the forefront of media and public attention in a way that is not typical.

In 'normal' circumstances, the regulations imposed on crematoria are highly unlikely to permeate public consciousness, largely because the impact of a cremation upon the environment tends not to cause public concern. There are a number of reasons for this. For instance, when attending a funeral (and to a lesser degree when pre-planning a funeral), the impact that the funeral may or may not have upon the environment is likely to be the last thing on one's mind, if present at all. Particularly when grieving the death of a member of kin, both the decisions

[89] Most social restrictions, including mandatory mask-wearing, were initially lifted in England on 19 July 2021.
[90] In March 2020, before the COVID-19 pandemic, 33 percent of British people said that the environment was one of the most important issues facing the country.
[91] In the USA, the term 'crematory' is typically used to describe a 'crematorium'.

that need to be made following death and the funeral arrangement process inevitably tend to evoke strong emotions. Accordingly, priorities are likely to lay in the arrangement of the funeral as quickly and seamlessly as possible, rather than considering the environmental impact of the funeral arranged. While emotional and practical considerations will also play a heavy role in the act of personal funeral planning, the less urgent nature of pre-planning may facilitate the opportunity for a broader range of issues to be considered. Nevertheless, even when environmental considerations are likely to influence funerary choices, the apparent lack of popular awareness of both the environmental impact of funerals and the availability of sustainable choices limits the scope of influence. While concerns regarding the emissions from crematoria, particularly regarding the toxins released by vaporised mercury, have been acknowledged in the public realm,[92] discussions regarding the impact of cremation upon the environment have mostly been private between those within the industry and relevant government bodies. Although the negative effects of cremation are not hidden from public knowledge, such information is not the kind that you tend to simply stumble across. This is exemplified on a broader scale when one searches various environment focused charity websites for information on cremation and its impact: it is virtually non-existent. However, there is one notable exception. In 1989, Friends of the Earth published *The Environmental Charter for Local Government*, containing 193 practical recommendations which 'set out exactly what local authorities should be doing […] to develop environmentally responsible policies' (Friends of the Earth 1989, p. 1). Recommendation 64 concerns cemeteries and crematoria: 'Fit best available technology pollution control to municipal crematoria.' While the 'pollution control' recommendation seeks to reduce the 'generation of carbon dioxide' by crematoria, it details that 'in fact, it is preferable to discourage cremation in general, as burial reduces pollution' (Friends of the Earth 1989, Recommendation 64). The recommendation does not detail *how* cremation should be discouraged. The publication of this recommendation is significant; however, it must be stressed that this is the only example I have found of such explicit activity, and its span of influence was largely limited to local government officials rather than the British public. Hence, while information on the environmental impact of cremation has occasionally been published by media outlets and other digital mediums, these concerns do not seem to permeate public consciousness in any meaningful way. Moreover, while journalists have written on the issue, those who have sought to highlight the negative environmental impact of body disposal practices do not necessarily have access to every minute detail. For example, an article in *The Times*, which is particularly well informed, somewhat wittily concludes by expressing that 'however environmentally friendly the procedure, it will still be easily offset by a few dozen mourners travelling by car for your send-off' (Whipple 2017). This statement certainly retains some truth, however, referring back to Brookes's findings, if one opts for cremation, then the mourners would have to travel over 2,280 miles in order to 'offset' the environmental impact caused by the cremation itself (Brookes 2019). Nonetheless, as previously noted, leaders within the funeral industry have now consciously placed the environment firmly on the industry's agenda, thus public awareness of these issues may soon increase.

[92] For example, with the enactment of the Environmental Protection Act 1990.

*COVID-19 AND FUNERALS*

The COVID-19 pandemic has fundamentally changed funerals in the UK in a number of ways. It was largely anticipated that many of the changes experienced during the pandemic would revert when restrictions were eased – including the limit on the number of attendees permitted at a funeral. However, research conducted by Davies and Robinson (Forthcoming) found that some 74 percent of British crematoria surveyed reported that they suspect that changes made during the pandemic will continue beyond it. During national lockdowns in England, funerals were limited to a maximum of thirty attendees, with six attendees able to attend what the UK Government classified as 'commemorative events' (UK Government 2021a). This was limited much further early on in the pandemic, particularly during the first lockdown in the UK,[93] when there was much more uncertainty regarding COVID-19 and limits on funeral attendees were determined by individual local authorities. As such, many people were unable to attend the funeral of their kin lost during the pandemic in its early stages in the UK. Guidance published by Public Health England in March 2020 suggested that only 'members of the deceased person's household or close family members should attend funerals' (Public Health England 2020). Moreover, when attendance was permitted, those who were able to attend funerals had to remain 'socially distant' (physically) from other mourners. Consequently, some 82 percent of those who organised a funeral in 2020 said that 'the funeral they organised was impacted a lot by COVID-19' (SunLife 2021, p. 22). Reasons for this included, for example, that the restrictions meant that in the case of 71 percent of funerals conducted in 2020, 'not everyone who wanted to attend the funeral could' (SunLife 2021, p. 22). Furthermore, SunLife found that some 86 percent of 'people who organised a funeral in the two years that followed the start of the pandemic said that it was affected by COVID-19 and social distancing methods' (SunLife 2023, p. 18). Hence, the impact of COVID-19 upon funerary activities was quite significant. For an extensive account of the impact of COVID-19 on death, dying and grief, Pentaris's (2022) edited collection, *Death, Grief and Loss in the Context of COVID-19*, is an excellent resource to engage with.

As already expressed, especially during the early months of the COVID-19 pandemic in the UK, the number of attendees permitted at funerals was limited. In some cases, no mourners were present at funerals at all – whether this was by 'choice' due to fear regarding the highly infectious nature of COVID-19, or rather because of the restrictions experienced during the pandemic, is difficult to tell. Nonetheless, the impact of the COVID-19 restrictions upon funerals is demonstrated by the finding that between February and July 2020, some 25 percent of funerals in the UK resulted in direct cremation (SunLife 2021, p. 28). Moreover, some 80 percent of crematoria saw an increase in the number of direct cremations, both during and after the height of the pandemic (Davies and Robinson Forthcoming). Prior to the restrictions, between 2019 and 2020, direct cremations represented some 14 percent of funerals in the UK (SunLife 2021, p. 18). Hence, there was a stark change in normative funerary practices during the COVID-19 pandemic. One change implemented during the COVID-19 pandemic that may continue beyond it is the use of live stream technology to broadcast funeral services. Throughout the pandemic, many funeral directors became accustomed with the use of technology to connect mourners from a distance. Many funeral directors offered the live streaming of funeral services prior to the COVID-19 pandemic, though not in an overarching way. This is demonstrated by the dramatic increase in the number of services that were live streamed

[93] The first national UK COVID-19 'lockdown' was during the period of March 2020 to June 2020.

during the pandemic: 97 percent of UK crematoria surveyed by Davies and Robinson reported that they saw an increase in the number of live streamed services during the pandemic compared with pre-pandemic levels (Davies and Robinson Forthcoming). Resultantly, the facility to live stream a funeral service is now deemed a necessary service to offer, and thus has become more standardised. The widespread availability of this service will provide further opportunities for mourners who would not usually be able to attend a funeral, for example, if they live a significant distance away from where the funeral takes place. Additionally, the availability of streaming services and the take-up of this service could possibly lessen the environmental impact of travel associated with funerals. However, whether the vast majority of changes in funerary practices witnessed during the height of the COVID-19 pandemic, including the uptake of direct cremation, will continue beyond pandemic-times remains to be seen.

The COVID-19 pandemic unanimously affected the lives of the global population in terms of personal health and wellbeing, but it also brought a number of social issues to the fore. While the environment is unlikely to be the first thing that comes to mind when one thinks of the impact of the COVID-19 pandemic, the side effects of the 'lockdown' periods demonstrated that it is possible to drastically reduce humanity's negative impact upon the planet. Moreover, the scale of mortalities during the pandemic emphasised the fundamental role of the funeral industry in society. The two, coupled with raised awareness of these matters as a consequence of the pandemic, may have a lasting impact on popular opinion. Thus, it may become more meaningfully apparent that the funeral industry fundamentally affects the environment and that its negative impact can be changed.

## IS ENVIRONMENT FOCUSED CHANGE POSSIBLE WITHIN THE BRITISH FUNERAL INDUSTRY?

With all this considered, will the British funeral industry and population be receptive to the introduction of environment focused change to funerary activities? As it stands, public awareness of the environmental impact of funeral industry activities is low. This is underscored by unpublished research conducted by Trajectory on behalf of Precision Organic Limited which found that some 51 percent of those surveyed[94] reported to be 'not at all' aware that cremation is damaging to the environment. Moreover, 61 percent reported that they were 'not at all' aware that 'cremated remains can be harmful to the ground and that nothing grows where they have been buried or scattered in large numbers' (Trajectory 2021). Not only is this lack of awareness sourced within British popular consciousness generally but, moreover, there is a significant lack of presence of funeral industry activities in governmental discussions regarding the environment. This absence is furthermore evidenced in reports on public health issues. For example, a report produced by the Royal College of Physicians (RCP) (2016), which studied the lasting impacts of air pollution, makes no mention of the funeral industry despite the fact that the report discusses the damaging impacts of $NO_x$ emissions, which are produced by the cremation process, and formaldehyde, used in the embalming process. Funeral industry stakeholders are well aware of the extent of the mercury and $NO_x$ emissions that the industry produces, but this information does not seem to extend beyond the funeral industry itself. The RCP report states that 'everyone has some responsibility for reducing air pollution' and that 'real change will only occur when everyone accepts this responsibility, and makes a concerted effort' (Royal College of Physicians 2016, p. xiv). With the correct information, reports such as the RCP's could enable

[94] Trajectory surveyed a representative sample of 1,500 UK adults.

the opportunity for awareness to be raised regarding the funeral industry and its environmental impact. Understandably, while the motor industry remains a significant polluter and the public can be encouraged to travel less, travel on public transport, invest in greener cars, car share, and so on, this will likely remain the focus of attention as such acts will drastically reduce the UK's pollution levels. However, when the motor industry reduces its pollution, the impact of funerary activities upon the environment will become more apparent, unless the funeral industry also reduces its pollution. The funeral industry is currently responsible for approximately 1 percent of $NO_x$ emissions in the UK, whereas road transport was responsible for 31 percent of $NO_x$ emissions in 2018 (UK NAEI 2020). Hence, at present, the pollution caused by road traffic significantly outweighs the impact of cremation, but this balance may soon change, especially with the anticipated 'greening' of cars on UK roads.

For environmental change to occur within the funeral industry and, more importantly, for such change to be adopted by the British public, education is necessary. How such education will occur in the UK is yet to be defined but is a task that may be of interest to the Cremation Society of Great Britain and its commitment to 'advance public education'. If the public are not aware of the environmental impact of funerary activities, there is no incentive to adopt change. Funerals are significant life events, embodying the loss of life and the grief of that loss. As previously acknowledged, the nature of the funeral industry makes addressing and implementing change complex. It is an industry within which the consumer is faced with emotionally driven decisions, often regarding the loss of a close relative. Hence, in the context of the funeral industry, the consumer tends to be bereaved; if not bereaved, then grappling with the reality of their own personal mortality – contextually, a difficult scenario to navigate. In a time of personal crisis, the consumer must make a purchase decision that will likely have a lasting impact upon themselves and others. In the British context, most funeral 'consumers' rely on a funeral director to help them make and perform their decisions. Accordingly, the opportunity for public education regarding funerary practices is primarily rooted in consultations between funeral directors and their 'consumers'. As such, I argue that the major opportunity for public education of AH and other environmental funerary options is likely to be in the form of funeral directors aiding consumers with funeral planning. How AH will be educated on and 'sold' to the consumer is discussed in more depth in Chapters 4 and 6.

Change of any kind takes time to be implemented and then adopted. Change has been particularly slow in the British funeral industry throughout history, but funerary change has nonetheless occurred – some changes have been more dramatic than others. The nineteenth century saw the introduction of modern cremation as an alternative disposal method to traditional burial, and the twentieth century saw the introduction of natural-woodland burial – the only significant funerary change in the UK since the introduction of modern cremation a century prior. As already indicated, cremation was not immediately popular and its adoption by the British public took a steady course. Traditional burial and cremation have been practised throughout British history, although their histories have differed. While burial has been the most longstanding and largely uninterrupted tradition, a general shift in normative practice began to develop after the Second World War, when cremation began to rapidly increase in popularity; though, it must be noted that the rate of adoption of cremation differed in rural and urban contexts across the UK at large. Cremation first overtook burial as the normative death-style of Britons in 1968, and is now by far the most dominant funerary choice (Cremation Society of Great Britain 2022). Cremation in the UK emerged against the background of changing social and theological attitudes towards death, with funerals being placed in an economic, hygienic, and rational framework (Jupp 2006, p. ix). Cremationists battled for the legalisation of cremation in the UK for a substantial period of time, and following the persuasion of the law, the

British public then had to be convinced of the process. Not only was education on the process and its credentials required, but the population had to be convinced that a new method of disposal was necessary. We are now a century ahead of these times, and a shift in social attitudes has occurred again. Now, concerns for the environment influence our daily lives and the span of these concerns is extending, meaning that the environmental discourse now also extends to death. As such, cremation, which has long been seen as the more hygienic and environmentally responsible method of disposal, is coming under contention. Such concerns contributed to the introduction of natural-woodland burial in the UK, and AH provides a further possibility to resolve these concerns.

The 2019 declaration of a climate emergency in the UK made concerns for the environment more prominent than ever before in the British context. This declaration, coupled with the UK's 2050 net zero target, ought to make the introduction of AH much closer to becoming a reality in the UK. However, a process similar to that which the cremationists undertook is necessary in order to enable its introduction. Considering the extensive time scale of the major change in the shift of normative British death-style from burial to cremation, and the paradigm shift that this change required, it is hardly surprising that the British funeral industry is somewhat rigid as it is not accustomed to change. Moreover, despite the popularity of natural-woodland burial, it is not a dominant British death-style. As previously noted, there are no official figures on the number of natural-woodland burials per year in the UK, but with burial accounting for some 27 percent of funerals in 2007, it is estimated that natural-woodland burial accounted for 1 percent of these burials (Clayden et al. 2015, p. 40). Perhaps this is suggestive that there is scope for further innovation in the British context. Conversely, it could elucidate that the majority are seemingly content with the options that are already available to them, with traditional burial and, especially, cremation remaining normative British death-styles. Either way, there is certainly scope for change, as demonstrated through the successful introduction and uptake of natural-woodland burial, and the prospective introduction of AH.

This chapter has shown that popular concerns for the environment are increasing on a scale not witnessed in recent history and these concerns are now influencing consumer purchasing decisions industry-wide. The previous chapter exemplified that British funerary practices have not been static, and changes are still being adopted today. The most dramatic change in normative British funerary practice was the widespread adoption of cremation, largely embraced as an economical and practical method of body disposal in the contemporary British context. Together, the chapters argue that with many adopting sustainable lifestyles, times could not be more suited for the introduction of AH as an environmentally sound method of dead body disposal; however, appropriately developed public education on the environmental impact of funerary activities will be necessary to facilitate an ecologically driven change in British death-styles. In the late-nineteenth century, hygiene and sanitary concerns regarding the disposal of the dead were dominant in the UK, spurring the introduction of modern cremation. The major concern in the twenty-first century is the environment, and not merely in relation to dead body disposal. Consequently, over the next decade, we will likely witness a continually growing number of people who dedicate their lives to reducing their environmental impact upon the planet, who may also begin to seriously consider the most environmentally sound way to deal with their mortal remains. How this context will shape up in the UK is yet to be seen, but I argue that the introduction of AH as the UK's fourth, and more sustainably significant, form of body disposal may be the next piece towards solving this complex puzzle (Robinson 2023). Having framed a history of the British deathscape, described the context of contemporary environmental concern, and defined the relationship of contemporary funerary activity in relation to both of these aspects, the next chapter considers the compatibility of AH with prevalent British worldviews.

# III

# THE INFLUENCE OF WORLDVIEW ON BRITISH DEATH-STYLES

Following the discussion of the historical and sociocultural nuances of contemporary British funerary practices and the consideration of their relationship with contemporary environmental concerns, this chapter discusses the influence of worldview on British death-styles. It does so by exploring the normative funerary practices associated with popular worldviews that are prevalent in the contemporary British context to map the British deathscape and situate AH within it. As noted in the introductory chapter, this thesis uses the term 'deathscape' as shorthand to define the overall representation of contemporary British death-styles. This chapter uses the theoretical framework of 'worldview studies'[95] as its foundational basis. As previously clarified, worldview studies concern not only religious beliefs, but spiritual, secular, and ideological perspectives. Accordingly, this chapter considers the worldviews that are most widely accounted for in the British context, based primarily on Census data on the question of 'religion'. For this reason, ideological worldviews, such as eco-political beliefs, are not explicitly considered. Hence, the chapter discusses mainstream British funerary practices associated with the worldviews of Christianity, Islam, Hinduism, Sikhism, Judaism, Buddhism, and no religion, partly for which humanist and, what I term, 'eclectic' funerals are discussed. The nature of the chapter means that generalisation is necessary and thus only mainstream funerary practices are described, with a primary focus on the preferred method of body disposal in each worldview. The purpose of this chapter is therefore to sketch the death-styles that are prevalent in the contemporarily diverse British deathscape in order to ponder how the practice of AH may fit within it. The chapter argues that while religious identity is undoubtedly of importance to a considerable proportion of the British population, religious worldviews can no longer be described as *the* major influence informing funerary choices in the UK. Moreover, for those for whom religious influences are significant informants of their death-style, it is clear that contemporary funerary choices are also influenced by a diverse range of issues which stretch beyond religious considerations, including issues of accessibility, cost, family preferences, and eco-political concerns. This is becoming increasingly evident since the notion of consumer choice and the 'right' to choose has more formally extended to the British funerary industry in recent years, as discussed fully in Chapter 6.

Before commencing with the analysis of data, the methodological choice of Census data warrants some comment. The Census is conducted every 10 years in the UK.[96] The Census Act 1920 and Census Act (Northern Ireland) 1969 make it compulsory for all citizens in England, Scotland, Wales, and Northern Ireland to participate in the Census (UK Parliament 1920; Northern Ireland Parliament 1969). While completion of the Census is compulsory, the question concerning religion is voluntary. In the 2011 Census, 92.8 percent of the population answered the question concerning religion in England and Wales, 93 percent answered in Scotland, and 93.25 percent answered in Northern Ireland. For this reason, Census data are arguably the most representative portrayal of the British

[95] 'Worldviews are shared perspectives on life that emerge as the human drive for meaning creates patterns of values, beliefs, and behaviours in response to natural and existential environments. They intensify everyday life experiences through ritual-symbolic events that foster identity and creative living, integrate individuals within society, inform mind-sets and lifestyles, and help people confront and transcend life's besetting problems, especially death. Worldviews change whether slowly or through rapid evolutionary transformation.' (Davies 2022, p. 3).

[96] The United Kingdom consists of four nations: England, Scotland, Wales, and Northern Ireland.

population one can access. Census data is split into three separate analyses: England and Wales; Scotland; and Northern Ireland. Scotland and Northern Ireland conduct their Censuses separately to England and Wales. Despite the similarity in data collected, the three analyses do not necessarily ask the same questions throughout. Nonetheless, with caution, comparison may be drawn in a generalised way for the question on religion. On the topic of religion, the England and Wales Census asks: 'What is your religion?' (Office for National Statistics 2012, 2022) and the Scotland and Northern Ireland Censuses ask: 'What religion, religious denomination or body do you belong to?' (Scottish Government 2015; Northern Ireland Statistics and Research Agency 2012, 2022a). Caution is needed since the wording of the question asked may prompt different responses in each version of its asking. For example, the term 'belong', used in the Scotland and Northern Ireland Censuses, may prompt individuals to associate this term with active ritual practice and attendance of worship; whereas the question 'What is your religion?', used in the England and Wales Census, may allude to a more personal response affiliated with private identity. To expound further, for example, the different phrasing may lead to the following differing response: in response to 'What is your religion?', one who may have been raised as a Christian but no longer attends Church or actively participates in ritual practices may describe themselves as 'Christian' nonetheless as they may feel that the term 'Christian' is relevant to their personal identity; by contrast, in response to 'What religion do you belong to?', that same person may not describe themselves as 'Christian' because the term 'belong' may allude to the notion of active participation in a religious tradition. As the ONS notes in the 2021 Census statistical bulletin on religion, the data for England and Wales have been interpreted as 'the religion with which [individuals] connect or identify, rather than their beliefs or active religious practice' (Office for National Statistics 2022). Furthermore, it must be stressed that while Census data are used to facilitate the foundational mapping of popular British worldviews in this thesis, I do not argue that those who 'tick' the same identity box in the Census necessarily share *exactly* the same worldview. The data provide a sense of the numbers that are likely to surround certain worldviews in the British context but cannot inform our understanding of their, inevitably, subjective meanings. In this way, the categorisation of British worldviews and death-styles that follows is intended to guide and frame the later analysis concerning AH rather than prescribe a definitive typology, the latter of which would be overly restrictive. Therefore, proceeding with caution, the Census data provide a helpful guide for this analysis.

Finally, before commencing this chapter, I must make one further methodological comment to prime what follows. This chapter was initially drafted and developed according to 2011 Census data, and it has since been revised and revisited following the publication of 2021 Census data for England, Wales, and Northern Ireland. Since the analysis contained within this chapter was initially generated based on the 2011 Census data and, moreover, given the nature of the research process that has produced this thesis, the most appropriate way to handle the data is to draw on the initial analysis produced based on the 2011 Census data and then comment on the initial insights in light of the 2021 Census data. This methodological decision has been made to reflect that this thesis documents a changing British society writ large, a changing British worldview landscape, and a subsequently changing British deathscape; maintaining both datasets within the thesis demonstrates the nature of these ongoing changes occurring within British society, both within the realms of this thesis and beyond it. Moreover, while the insights produced in this chapter were first made based on the 2011 Census data, they have since been confirmed and strengthened by the 2021 Census data, particularly in the case of the insights which are documented in the sections concerning 'Eclectic Death-Styles' and 'Alkaline Hydrolysis in the British Deathscape'. A final reason for using the datasets from both 2011 and 2021 is that the Scottish Census data for 2022 was not published before the

completion of this thesis. On this basis, the 2011 Census data for all four nations in the United Kingdom ought to remain. Hence, the 2011 Census data is documented for all four nations and new insights have been added in light of the contemporary Census data produced for England, Wales, and Northern Ireland.

## THE BRITISH WORLDVIEW LANDSCAPE

British worldviews are increasingly diverse and comprise of a range of religious and non-religious worldviews, as the Census data discussed subsequently show. The following three sections seek to map the diversity of the British worldview landscape by analysing contemporary Census data. The Census data provide a sound indication of the varieties of worldview identification that are most widely accounted for in the contemporary British context. The scrutiny of the British worldview landscape primes the subsequent analysis of each worldview's death-style.

### *RELIGIOUS WORLDVIEWS*

Despite an increase in the population's identification with 'no religion' in the UK over the past two decades, all religious worldviews have increased in terms of population size in England and Wales since Census data were first collected, except for Christianity which has declined and Judaism which has remained the same. The Census data indicate that the largest cluster of British worldviews are represented by those who identify as 'Christian', accounting for 46.2 percent of the population of England and Wales, 55.6 percent of the population of Scotland, and 79.6 percent of the population of Northern Ireland (Office for National Statistics 2022; Scottish Government 2015; Northern Ireland Statistics and Research Agency 2022a). Despite the prevalence of 'Christian' affiliation in the UK, ascription of 'Christian' identity has declined most dramatically in the UK over the last two decades. Since 2011, the percentage of the population identifying as 'Christian' has declined by 13.1 percentage points in England and Wales and by 2.72 percentage points in Northern Ireland (Office for National Statistics 2012, 2022; Northern Ireland Statistics and Research Agency 2012, 2022a). The Census data suggest that Islam represents the third largest cluster of worldviews in England, Wales, and Scotland and is growing rapidly, with the Muslim population in England and Wales estimated to have grown by 75 percent between 2001 and 2011 (Ali 2015, p. 22; Office for National Statistics 2012, 2022; Scottish Government 2015). Islam represents 6.5 percent of the population of England and Wales, 1.4 percent of the population of Scotland, and 0.57 percent of the population of Northern Ireland (Office for National Statistics 2022; Scottish Government 2015; Northern Ireland Statistics and Research Agency 2022b). Since 2011, the percentage of the population identifying as 'Muslim' has increased by 1.7 percentage points in England and Wales and by approximately 0.36 percentage points in Northern Ireland (Office for National Statistics 2012, 2022; Northern Ireland Statistics and Research Agency 2012, 2022b; Ali 2015). Moreover, those who identified as 'Muslim' in the 2021 Census for England and Wales represented the youngest median age group answering the question on religion, which suggests that the British Muslim population will be sustained and continue to grow over the next few decades (Office for National Statistics 2023). The Census data suggest that Hinduism represents the fourth largest cluster of worldviews in England, Scotland, and Wales, with approximately half of the British Hindu population living in London (Rugg and Parsons 2018, p. 68). Those who identify as 'Hindu' represent 1.7 percent of the population in England and Wales, 0.3 percent of the population of Scotland, and 0.22 percent of the population of Northern Ireland (Office for National Statistics 2022; Scottish Government 2015; Northern Ireland Statistics and Research Agency 2022b). Sikhism represents 0.9

percent of the population of England and Wales and 0.2 percent of the population of Scotland (Office for National Statistics 2022; Scottish Government 2015). Judaism represents 0.5 percent of the population of England and Wales and 0.1 percent of the population of Scotland (Office for National Statistics 2012, 2022; Scottish Government 2015). The 2021 Northern Ireland Census data do not break down the 1.3 percent of the population who identify with 'other religions' in the main statistical bulletin (Northern Ireland Statistics and Research Agency 2022a). While a detailed dataset breaks the proportion down somewhat further, it only details the proportion of the population who identified as 'Muslim', 'Hindu', and 'Buddhist', with 0.47 percent of the population labelled as belonging to 'other religions' (Northern Ireland Statistics and Research Agency 2022b). Hence, it is not possible to identify the size of the Sikh or Jewish population of Northern Ireland because it is not detailed in the published Census data. Buddhism represents 0.5 percent of the population of England and Wales, 0.2 percent of the population of Scotland, and 0.08 percent of the population of Northern Ireland (Office for National Statistics 2022; Scottish Government 2015; Northern Ireland Statistics and Research Agency 2022b).

### *NON-RELIGIOUS WORLDVIEWS*

As already indicated, those who identify with 'no religion' represent the fastest growing cluster of worldviews in contemporary Britain. In England and Wales, 37.2 percent of the population reportedly identified as having 'no religion' in the 2021 Census, increasing from 25.2 percent of the population in the 2011 Census (Office for National Statistics 2012, 2022). In Scotland, 36.7 percent of the population reportedly identified as belonging to 'no religion' in the 2011 Census (Scottish Government 2015). In Northern Ireland, 17.39 percent of the population reportedly identified as belonging to 'no religion', increasing from 10.11 percent in the 2011 Census. The NIRSA notes that both the 'nones' and those belonging to 'other religions' 'have approximately quadrupled in size over the last twenty years and now make up over one in ten of the population' (Northern Ireland Statistics and Research Agency 2022a, p. 8). Hence, those who do not identify with a 'traditional' religious organisation in the UK make up a significant proportion of the population, particularly in the case of those who do not identify with any formal religious worldview. This is predicted to be a trend with an upward trajectory, as the 'nones' have increased in population size by 22.4 percentage points over the last two decades in England and Wales (Office for National Statistics 2012, 2022). Moreover, this upward trajectory is further indicated by the age of those identifying with 'no religion', as the ONS notes that the '22.2 million people who reported "No religion" in 2021 were younger than the overall population in England and Wales' with 91.2 percent of the 'nones' aged under 65-years-old, while those identifying as 'Christian' represented the highest median age group (Office for National Statistics 2023).

What we do not know from Census data is how the 'no religion' category manifests in terms of the 'typical' beliefs and practices of such a vast proportion of the British population. We now have some 37.2 percent of the population of England and Wales who attribute their identity with 'no religion', yet we have little idea of what the 'no religion' identification symbolises. As Woodhead notes, those identified within the 'nones' category 'exhibit considerable diversity' (Woodhead 2016, p. 252). Accordingly, Guest stresses that the 'nones' are 'not a single, coherent group' but are 'united by a rejection of 'religious' as a label, rather than a positive affirmation of a particular non-religious perspective', thereby affirming a 'spectrum of orientations' (Guest 2022, p. 155). Some insight into the makeup of the 'nones' can be gained through analysis of the written responses under the heading of 'Any other religion' on the Census. The Census data for England and Wales stipulate that 'of those who wrote-in a non-religious group to "Any other religion", the largest numbers were: Agnostic (32,000); Atheist (14,000);

Humanist (10,000)' (Office for National Statistics 2022). However, this analysis should be read with caution because these respondents chose *not* to tick the 'no religion' category and provided a written response instead. As such, the fact that variations of non-religion featured among those answering 'any other religion' cannot be directly used as evidence that those who *chose* 'no religion' on the Census exhibit the same range of responses. Beyond Census data, Woodhead's (2016) study[97] provides further insight into the diversity of non-religious worldviews prevalent in the British context. Woodhead argues that the 'nones' range from those who identify as ''secular' in the strong sense' of atheism and hostility to faith schools to those who believe in God, 'a spirit, life-force, energy, or simply 'something there'', and those who may take part in 'personal or spiritual religious practice' (Woodhead 2016, pp. 249-250). Hence, those who identify as having 'no religion' may be occasional churchgoers who only attend during festivities such as Christmas or may be strong atheists. Moreover, the 'nones' category encompasses ideological worldviews, such as environmentalism and Marxism. As with the diversity of what may be classified as 'religious' or 'spiritual' beliefs within the 'nones', Woodhead found that 'nones' are 'spread out across the political spectrum' (Woodhead 2016, p. 251). Hence, British worldviews are becoming increasingly difficult to categorise in 'tick box' exercises such as those examined in the Census.

### *DIVERSE BRITISH WORLDVIEWS*

The Census data exemplify an increasingly diverse British worldview landscape, illustrated by the popular identification with a variety of religious and non-religious worldviews. However, as alluded to above, to truly analyse the worldview identification of the British population is a far more complicated task than analysing data from mere 'tick box' exercises. In addition to the broad category of the 'nones', it is notable that affiliation with 'other' religious worldviews that are not listed in the Census is also a growing trend in the UK. In England and Wales, 0.6 percent of the population reportedly identified as belonging to an 'other' religion[98] to those listed in the Census, increasing from 0.4 percent in the 2011 Census (Office for National Statistics 2012, 2022). In Scotland, 0.2 percent reportedly identified as belonging to an 'other religion' to those listed (Scottish Government 2015). In Northern Ireland, 1.3 percent of the population reportedly identified as belonging to an 'other religion' to those listed, increasing from 0.82 percent in the 2011 Census (Northern Ireland Statistics and Research Agency 2012, 2022a). Moreover, because the Census question on 'religion' is optional, a moderate proportion of Britons did not state their worldview in their Census response. In England and Wales, 6.0 percent of the population did not state their religion (or non-religion) in the 2021 Census, decreasing from 7.2 percent in 2011 (Office for National Statistics 2012, 2022). In Scotland, 7.0 percent of the population did not state their religion (or non-religion) (Scottish Government 2015). In Northern Ireland, 1.6 percent did not state their religion (or non-religion), decreasing from 6.75 percent in the 2011 Census (Northern Ireland Statistics and Research Agency 2012, 2022a). Hence, the data sourced from the 'any other religion' category and the optional nature of the question on religion in the Census prompting some not to answer further suggests increasing diversity of British worldviews.

[97] Woodhead's surveys were conducted by YouGov in January 2013 and December 2015 (Woodhead 2016).

[98] In 2011, the majority of those who identified as belonging to an 'other religion' to those listed in England and Wales identified as either Pagan, Spiritualist, or having 'Mixed Religion' (Office for National Statistics 2012). In 2021, 'among' those who chose to 'write-in a response through the "Any other religion" option' were: Pagan, Alevi, Jain, Wicca, Ravidassia, Shamanism, Rastafarian, and Zoroastrian. Additionally, some respondents 'wrote-in a non-religious group to "Any other religion",' the largest being: Agnostic, Atheist, and Humanist (Office for National Statistics 2022).

The 2021 Census data for England and Wales compared with the 2011 Census data facilitates a fascinating insight into the rapidly changing worldview landscape of contemporary Britain. I have included both the 2011 and 2021 Census data within this thesis, rather than only documenting the most contemporary data, in order to draw this out most transparently. What the 2021 Census data show most dramatically compared with the 2011 data is the decline of the influence of Christianity and concurrent rise of the 'nones' in contemporary Britain. The 2021 Census data revealed for the first time in Census history less than 50 percent of the population of England and Wales identifying as 'Christian' (Office for National Statistics 2022). While the 'nones' remain below 50 percent, the decline of those identifying as 'Christian' is significant. Moreover, the rise of the 'nones' seems to directly correlate with the decline of those identifying as 'Christian'. In 2021, 46.2 percent of the population identified as 'Christian', representing a 13.1 percentage point decrease from 59.3 percent in 2011. Comparatively, in 2021, 37.2 percent of the population identified with 'no religion', representing a 12.0 percentage point increase from 25.2 percent in 2011 (Office for National Statistics 2012, 2022). This trend is evidenced throughout the three most contemporary Census data (2001, 2011, and 2021). Overall, between 2001 and 2021, those identifying as 'Christian' in England and Wales decreased by 24.9 percentage points. In 2001, 71.1 percent of the population identified as 'Christian', this proportion decreased to 59.3 percent in 2011, and decreased again to 46.2 percent in 2021. Concurrently, between 2001 and 2021, those identifying as having 'no religion' increased by 22.4 percentage points. In 2001, 14.8 percent of the population identified as having 'no religion', this proportion increased to 25.2 percent in 2011, and increased again to 37.2 percent in 2021 (Office for National Statistics 2012, 2022).

Hence, given the variety of British worldviews and the evident increase in the proportion of the population who identify with 'no religion', it can no longer be assumed that the overwhelming majority of funeral services *strictly* follow practices prescribed by a particular religious tradition in the UK. However, it must be noted that this is a relatively recent trend. Woodhead suggests that as 'recently as 1990, a non-religious funeral was still unusual' in the UK. Yet by 2015, 36 percent of the population surveyed stated that they would want a 'non-religious' funeral and 23 percent would want 'a mix', with only some 25 percent reporting that they would want a 'Christian' funeral. Accordingly, Woodhead argues that by 2015, 'the non-religious funeral had become completely normal […] socially, culturally, and emotionally normal' and 'it was the Christian funeral which had become a bit strange' in the UK (Woodhead 2017, p. 248). Hence, with the diversity of beliefs accounted for in the UK – religious, spiritual, secular, humanist – funerary practices have accordingly adapted. To provide an overview of normative funerary practices in the UK, the following sections describe the religiously influenced and 'eclectic' death-styles that are prevalent in the contemporary British context to frame how AH may be adopted in the British deathscape. AH's potential adoption is discussed in the penultimate section of this chapter.

## RELIGIOUSLY INFLUENCED DEATH-STYLES

As the previous sections illustrated, affiliation with a religious worldview is still relatively common in the UK. Hence, despite arguing that religion can no longer be described as *the* major influence informing contemporary funerary choices in the UK, religious worldviews do continue to influence funerary choices for many Britons. As such, to frame the analysis in the penultimate section of this chapter concerning how AH may be adopted within the British deathscape, the following sections describe the mainstream funerary practices of the dominant religious worldviews in the UK – Christianity, Islam, Hinduism, Sikhism, Judaism, and Buddhism – organised by the 'type' of death-style associated with each worldview. At the outset, I must stress that in categorising religiously influenced death-styles in this way, I am seeking to define a *generalised* typology. Indeed, personal preference, circumstance, accessibility, and so on, will undoubtedly influence an individual's funerary choice. This is why it is necessary to stress the significance of the sociocultural, geographical, and worldview context of this research. For instance, while I have defined Jewish death-style as 'burial', this does not account for the preferences of British (religious) Jews writ large. Moreover, despite Islamic preference for burial, certain geographical, cultural, and legal contexts mean that burial is not possible for all Muslims. The list of nuances in each tradition could go on, illustrating that there are some limitations to this method. Nonetheless, the categorisation used here is helpful to create a broad picture of how AH may be adopted in the British context in accordance with British worldviews.

## RELIGIOUSLY INFLEUNCED DEATH-STYLES: BURIAL OR CREMATION

### *CHRISTIAN DEATH-STYLES*

As previously noted, those who identify as 'Christian' represent the largest cluster of worldviews in all four nations of the UK, according to Census data. The Church of England is the 'Established Church' of England, the largest of the four nations, with the British Monarch acting as Supreme Governor of the Church of England alongside their secular role as Head of State. Christianity, as the 'official' religion of England, is thus firmly established within British society. There are numerous Christian denominations prevalent in the UK, these broadly include: Anglicans, Roman Catholics, Methodists, Presbyterians, Baptists, and Quakers, amongst others. With the vast number of Christian denominations prevalent in the UK, there is consequently variation within British Christian funerary practice (Rugg and Parsons 2018, p. 63). Nonetheless, despite denominational variation in liturgy, for a significant period of Christian history, burial had been the principal method of human corpse disposal (Davies 2017, p. 155). Some Christian denominations believe in the corporeal resurrection of the body after death, and therefore require that the corpse is buried in order to prepare the mortal body for a form of immortal resurrection. Most Christian denominations believe in the immortality of the soul, but not necessarily the prospect of the physical resurrection of the body, thus enabling further flexibility in funerary choice in the contemporary British context. Consequently, all Christian denominations, with the exception of the Orthodox Church, now permit the practice of cremation (Robinson 2021a). As previously explored, modern cremation was first practised in the UK in 1885 but it was not immediately adopted by Christian denominations. Davies notes that as the twentieth century developed, Anglicanism was increasingly accepting of cremation and 'developed slight changes to burial rites to accommodate cremation but without any major change of doctrine' (Davies 2017, p. 160), retaining 'an essential 'burial theology'' (Davies 2008, p. 143), followed closely in suit by Protestant

denominations. This minimal change to liturgy is rooted in the reactive nature of the Church to cremation. The churches did not introduce modern cremation, rather, as Davies further emphasises, 'from a church perspective it was the laity or even the broadly secular populace that accepted the practice [of cremation] with most churches following behind, realizing that they needed to be involved' (Davies 2008, p. 143). Hence, 'the Church of England did not introduce liturgies for cremation until the late 1930s, fifty years after the first legal cremation' in Britain (Jupp 2006, p. 89). Until 1963, the Catholic Church forbade cremation, and while cremation is now permitted following the *Instruction Piam et costantem* (1963), the *Ad resurgendum cum Christo* (2016) forbids the retention of cremains at home and the scattering or separation of ashes, and prescribes only the burial of ashes:

> 'When, for legitimate motives, cremation of the body has been chosen, the ashes of the faithful must be laid to rest in a sacred place, that is, in a cemetery or, in certain cases, in a church or an area, which has been set aside for this purpose, and so dedicated by the competent ecclesial authority.'
>
> (Congregation of the Doctrine of Faith 2016)

Thus, generally, a British Christian may choose to be buried or cremated in keeping with their personal preference; as Jupp notes, 'once Catholicism accepted cremation in 1963, the mode of disposal of the dead was decreasingly of denominational importance for people born in a Christian culture' (Jupp 2006, p. 158). The notion of 'British Christianity' and the alignment of 'British' and 'Christian' culture is worthy of a brief moment of reflection as many sociologists have questioned the legitimacy of Census data for what it tells us about 'Christian' identity in the UK. Notable here is the work of Day (2011), who argues that many of those who tick 'Christian' in the Census may be described as Christian 'nominalists'. Moreover, Guest et al. suggest that the term 'Christian' is sometimes 'taken to indicate being British, being a loyal British citizen, being a morally responsible person or being committed to a residual Christian observance' (Guest et al. 2013, p. 36). Woodhead further notes the significance of the 'What is your religion?' question 'coming immediately after questions about ethnicity' in the Census, which may subsequently elicit a 'culturally' Christian response to the question (Woodhead 2016, p. 246). Hence, 'Christian' affiliation in the contemporary British context may mean something 'other' than explicitly *religious* identity. Nevertheless, whatever the vast 'Christian' identity expressed in the Census data means, broadly speaking, British Christian denominational variation in funerary ritual is largely sourced within the liturgy that may be used during a funeral service and the order of ritual practices in the British context. An example of a typical Christian funeral service within the Church of England is as follows:

**The Gathering**

1 The coffin may be received at the door by the minister.
2 Sentences of Scripture may be used.
3 The minister welcomes the people and introduces the service.
4 A tribute or tributes may be made.
5 Authorized Prayers of Penitence may be used.
6 The Collect may be said here or in the Prayers.

**Readings and Sermon**

7 One or more readings from the Bible is used.
Psalms or hymns may follow the readings.
8 A sermon is preached.

**Prayers**

9 The prayers usually follow this sequence:

Thanksgiving for the life of the departed

Prayer for those who mourn

Prayers of Penitence (if not already used)

Prayer for readiness to live in the light of eternity

**Commendation and Farewell**

10 The dead person is commended to God with authorized words.

**The Committal**

11 The body is committed to its resting place with authorized words.

**The Dismissal**

12 The service may end with a blessing.

(Church of England 2005, p. 257)

*BUDDHIST DEATH-STYLES*

Buddhism is an incredibly diverse religion and thus there is variation in 'typical' funerary practice. The variety of what may be termed 'Buddhisms' means that 'it is not possible to discuss Buddhist funeral rituals per se' but rather 'funeral customs practiced within a Buddhist context' (Leming and Dickinson 2002, p. 373). As Gouin (2015) echoes, the 'form' of a Buddhist funeral 'varies considerably between the various Buddhist traditions and across cultures within those traditions' but there is commonality in the 'basic elements' of Buddhist funerary customs. These basic elements include the 'care of the body […], reading or chanting an appropriate sacred text, and dedicating the merit of the recitation to the benefit of the deceased' (Gouin 2015, p. 68). Following the example of the Buddha, Buddhist tradition favours the practice of cremation, but cremation is not prescribed practice by Buddhist tradition. Accordingly, the practice of burial is also popular amongst many Buddhists, including sky and water burial (Crosby and Collett 2005; Gouin 2015; Davies 2017; Robinson 2021a). Gouin notes that in the West, Buddhist 'methods of disposal are mostly limited to earth burial and cremation […] and the timing is a matter of law rather than religion' (Gouin 2015, p. 68). Hence, difference in Buddhist funerary practice is largely determined by cultural-geographical location and the type of Buddhist tradition followed. The ultimate goal in Buddhism is nirvana (or enlightenment), release from samsāra. Goss and Klass note that although the 'task' of nirvana is 'accomplished differently in different cultures, the teaching on impermanence and the possibility for escaping the cycles of rebirth are consistent in Buddhisms across cultures' (Goss and Klass 2006, p. 91). The Buddhist tradition encourages mindfulness at death and the 'ideal way to die or to grieve is [in] a state of calm or with a mind concentrated in devotion to the Buddha and with compassion' (Goss and Klass 2006, p. 91). This is to ensure that 'the enlightened person, whose mind is purified and generates no karma, that is, no actions with future effect, escapes rebirth and enters into final nirvana or perfectly integrated state of rest' (Goss and Klass 2006, p. 70). Hence, death presents a key opportunity for Buddhists 'for fundamental change and transition into another rebirth or to escape entirely from the cycle of rebirth' (Goss and Klass 2006, p. 69). To reiterate, for Buddhists, 'the moment of death is a supreme opportunity for obtaining enlightenment', and so 'the [dying] person must be focused on the process of dying' because 'the frame of mind in which the dying person breathes their last [breath] is key in determining their next rebirth' (Gouin 2015, p. 64). After death, the

body is 'often taken to a Buddhist centre or communal building where people can come and perform rituals such as *puja* (devotion to the Buddhas), chanting, meditations for the departed consciousness, or reading aloud from sacred texts' (Crosby and Collett 2005, p. 100). If cremation is chosen, cremation of a shrouded body occurs on an open-air pyre, however, this is not generally a possibility in the UK under the Cremation Act 1902 (UK Parliament 1902).

## RELIGIOUSLY INFLUENCED DEATH-STYLES: BURIAL

### *ISLAMIC DEATH-STYLES*

Islam represents the third largest cluster of worldviews and fastest growing formal religious tradition in the UK. The majority of British Muslims follow the Sunni rather than Shi'a tradition of Islam, however, there are 'no substantial differences between Shi'a and Sunni [tradition] with regard to funerary practice' (Rugg and Parsons 2018, p. 65). In regard to Islamic tradition, it is interesting to note that 'nowhere does the Qur'ān indicate how the dead body ought to be handled' (Halevi 2007, p. 207); the Hadīth is much more prescriptive and details how to treat the dead in a dignified manner (Robinson 2021a). Islamic tradition prescribes the corpse to be buried, ideally within twenty-four hours of death and before sunset (Turner 2005; Esposito 2011; Campo 2016; Rugg and Parsons 2018). The practice of burial is particularly important in Islamic tradition due to a strong belief in corporeal resurrection (Rugg and Parsons 2018, p. 65). Traditionally, many British Muslims sought for the deceased to be repatriated but presently, burial in the UK is more common (Ansari 2018, p. 381; Rugg and Parsons 2018, p. 66). To facilitate this, Ansari notes that in most British cities, mosques 'have set up facilities for performing the last rites according to Islamic requirement', cemeteries have been purchased, and burial societies aid British Muslims in attaining burial spaces which allow for the 'correct alignment of graves, interment at short notice, burial in shrouds, filling in and mounding of graves by mourners, and roofing over the coffin to prevent direct contact with the soil' (Ansari 2018, p. 381). Campo notes that the 'Islamic legal canon prescribes four Muslim funerary practices – ritual bathing of the corpse (*ghusl*), shrouding (*takfin*), funeral prayer (*salat al-janaza*), and burial (*dafn*)' (Campo 2006, p. 161). According to Fiqh literature, 'funerary rites should include: 1) pronouncing the testimony of faith (*shahada*) prior to death and turning the dying person's face toward Mecca; 2) ritually washing and shrouding the corpse; 3) performing funeral prayers; 4) conducting the body to the cemetery; 5) burial of the corpse on its right side, with the face turned to Mecca; 6) mourning; and 7) visiting the grave' (Campo 2016, p. 161). In the UK, there exists a legal requirement for the dead body to be covered in public (Conway 2016, p. 30); consequently, British Muslims tend to opt for the use of a simple wood coffin rather than a shroud to contain the corpse, though a shroud would be legally permissible. Islamic tradition forbids embalming and cremation (Esposito 2011; Davies 2017; Rugg and Parsons 2018). Cremation is forbidden primarily because it is taught that after death, the body and the spirit 'dwell jointly, between death and the resurrection, in *al-barzakh'* (Halevi 2007, p. 226) which, in this context, refers to the grave. While in cremation the corpse is rapidly 'destroyed', in burial, the corpse is laid to rest enabling 'the perpetuation of the deceased until some future day' (Davies 1990, p. 33); hence, there is a stark contrast in symbolism. The imagined 'self' in death ritual and how this corresponds with theological teachings regarding the afterlife is thus an important consideration, particularly in Islamic tradition (Robinson 2021a).

## *JEWISH DEATH-STYLES*

Before describing mainstream British Jewish death-styles, it is important to note that 'Jewish' identity does not merely describe religious identity, but also ethnic identity. Hence, discussion surrounding 'Jewish' death-styles does not only cover religious Jewish funerals but also secular Jewish funerals. As such, 'Jewish' funerary ritual 'can vary to a marked extent not just between more traditional and more modern Jews but also between those who adhere to religious beliefs and those who are secular' (Davies 2017, p. 139). Rugg and Parsons argue that differences in Jewish funerary practice are 'expressed through more or less strict adherence to funerary ritual defined by Halakhah, or Jewish law' (Rugg and Parsons 2018, p. 72). Accordingly, within religious Judaism, there exist differences in practice and belief between movements – for example, between Orthodox and Reform movements. Hence, what follows does not, and cannot, testify for all who identify as Jewish, but the focus of this section is on religious Jewish practices. Golbert notes that 'the diversity of Judaism across time and space reveals a variety of beliefs and practices surrounding dying, death, burial, and bereavement' (Golbert 2006, p. 46). Broadly speaking, Jewish tradition stipulates that the body must be treated with respect, dignity, and simplicity (Golbert 2006, p. 56; Davies 2017, p. 139) and prescribes the burial of the body after death; the only exception being that Liberal Judaism accepts the practice of cremation (Rugg and Parsons 2018, p. 73; Liberal Judaism n.d.). Cremation is forbidden by Orthodox Judaism because of a firm belief that 'the body will eventually be resurrected and must remain intact' (Golbert 2006, p. 56), hence, the reason for the preference of burial is firmly rooted in the emphasis on corporeal resurrection. Jewish law requires burial amongst Jewish people, and so, British Jews tend to be buried in Jewish cemeteries or defined Jewish sections of municipal cemeteries; there are approximately 60 operational Jewish cemeteries in England (Rugg and Parsons 2018, p. 73). Before the funeral, the body should be ritually washed (tahara) by a member of the same sex and wrapped in a white shroud – this act is a purification ritual (Leming and Dickinson 2002, p. 368; Golbert 2006, p. 56). In certain communities, this ritual washing will be carried out by the local Chevra Kadisha – a group of volunteers who perform such rites – however, Golbert notes that tahara has become 'increasingly professionalised' outside of traditional Jewish communities (Golbert 2006, p. 56). After death and until the funeral service, the body is expected to be watched over at all times (Golbert 2006, p. 56). Jewish funerary ritual emphasises 'simplicity and speed' (Davies 2017, p. 139). As such, burial should ideally take place within twenty-four hours of death (Leming and Dickinson 2002, p. 368). The use of a simple white shroud or plain wooden coffin reiterates equality in death. Ideally, no coffin should be used; however, as with other religious traditions prevalent in the UK, a simple wooden coffin is often used for Jewish funeral services in the UK. Jewish funeral services tend to be brief, and the focus is primarily on accompanying the body to its final resting place (Rugg and Parsons 2018, p. 73).

## RELIGIOUSLY INFLUENCED DEATH-STYLES: CREMATION

### *HINDU DEATH-STYLES*

Hindu tradition prescribes the practice of cremation, ideally using an open-air pyre, however this is not generally a possibility in the UK under the Cremation Act 1902 (UK Parliament 1902). Many traditional Hindu death practices are made more difficult to enact as theologically desired in the British context compared with the traditional Indian context. This is most discernible in the act of the cremation itself: in India, an open-air pyre is typically used for cremation, whereas in the UK, a cremator contained within a crematorium is used for cremation. For Hindus, the act of burning the corpse aids the release of the ātman ('spirit' or 'soul') from the body (Firth 1997, pp. 36-38, p.193; Mims 1999, p. 173) so that it can either be reincarnated (reborn into a different body), have a period in heaven or hell, or is liberated from samsāra (the cycle of birth, death, and rebirth) to achieve moksa (liberation from samsāra) (Robinson 2021a). Ideally, the dying person should be laid on the ground, outside, on a ritually cleansed area and scriptures chanted (Elmore 2006; Davies 2017; Rugg and Parsons 2018). After death, the body should be ritually washed and cremation of a shrouded body should occur within twenty-four hours after death on an open-air pyre, during daylight hours, with the pyre lit by the eldest son and the skull of the deceased cracked partway through the cremation (kapal kriya) (Elmore 2006; Davies 2017). All ritual practices seek to aid the release of the ātman (Firth 1997). In the UK, requests can be made for a family member to ignite the cremator, however, the act of kapal kriya is not possible. After cremation, ideally, the ashes should be placed in the river Ganga or Yamuna, symbolising 'the final departure or 'seeing off' of the ātman on its journey to the next life' (Firth 1997, p. 90). Ashes are often sent to India for this purpose, however, it is also acceptable within Hinduism to place the ashes in a local river, sea, or running water (Firth 1997; Rugg and Parsons 2018). For this reason, a designated site on the River Soar in Leicester has been established for the scattering of ashes (Rugg and Parsons 2018, p. 69). There exist no legal regulations disallowing the scattering of ashes in water in the UK, however, the Environment Agency has published guidance on the practice (Environment Agency 2017).

### *SIKH DEATH-STYLES*

The *Sikh Rehat Maryada* – the Sikh Code of Conduct – details that the body of the deceased should be cremated, preferably on an open-air pyre. However, if cremation is not possible, then the body may be disposed of in 'any other manner' (SGPC 1950, Article XIX). Hence, the Sikh tradition has preference of the practice of cremation, albeit this is not absolutely compulsory (Rugg and Parsons 2018, p. 70). Sikhism teaches about samsāra and the hope to be released from this cycle – mukti (spiritual liberation) – which cremation aids (Robinson 2021a). After death, the body should be washed and dressed, during which the kangha, kara, kirpan, and kach should not be removed, and the head should remain covered. As with Hindu tradition, the pyre should be lit by the deceased's son or other family member, hymns are sung, and Ardas offered. As already stated, while open-air pyre cremation is not generally a possibility in the UK, requests can be made for a family member to ignite the cremator. According to the *Rehat Maryada*, piercing the skull in the belief that the act will secure the release of the soul – kapal kriya – is contrary to the Guru's tenets (SGPC 1950, Article XIX). Myrvold explains that the 'cremation ceremony, which is called the last ritual (*antim samskara*) or the fire ritual (*agni samskara*), consists of four central

acts: breaking of the pot (*dhamalak bhanana*), offering the fire (*agni bhaint*), reading Ardas, and reciting the hymn "Kirtan Sohila."' (Myrvold 2006, p. 193). Following cremation, the ashes should be immersed in flowing water or buried at the location of the pyre; this ritual act is legally permissible in the UK.

In line with the *Rehat Maryada*, Sikh funeral ritual consists of the following acts, according to Myrvold (2006):

> After death
>
> > Read Guru Granth and repeat the name of God (*vahiguru*)
> >
> > Bathe and dress the body in clean garments with the five Sikh symbols and place it on a bier
> >
> > Perform the Sikh prayer Ardas before the hearse is taken to the cremation ground
>
> Cremation
>
> > Perform the Sikh prayer Ardas before the son, relative, or friend offers the fire
> >
> > The congregation should sing and listen to devotional music
> >
> > Perform the hymn "Kirtan Sohila"
> >
> > Perform the Sikh prayer Ardas
>
> After cremation
>
> > Read Guru Granth
> >
> > Arrange devotional singing every night after the cremation
> >
> > End the funeral rituals after the tenth day
>
> (Myrvold 2006, p. 185)

## ECLECTIC DEATH-STYLES

Having explored the normative death-styles of the popular religious worldviews prevalent in the UK, this section discusses the phenomenon of 'eclectic' death-styles in contemporary Britain. The term 'eclectic death-styles' is used to describe funerary choices that draw from a diverse range of worldview influences, therefore representing 'personalised' funerary choices. The discussion largely focuses on the influence of non-religious worldviews on contemporary British funerary choices, which may include a range of influences from explicitly atheist ideas to political concerns, through to spiritual and religiously indifferent concepts. Nonetheless, the discussion does not concern itself with ideas that can be described as completely separate from religious worldview influences. As previously alluded to earlier in this chapter, to speak of the UK as 'secular' in the strictest sense of the term is complicated because of the cultural influences of religious worldviews – particularly Christianity – evident in the private and institutional makeup of the UK. Hence, while what follows *could* have been framed as concerning 'secular' eclectic death-styles, the concept of secularism largely complicates this discussion. Instead, the use of the term 'eclectic death-styles' encompasses the funerary choices of a diverse range of British worldviews, with a particular focus on broadly non-religious worldviews.

Despite the continued significance of religion for many Britons, non-religious affiliation is undoubtedly increasing in the UK. Accordingly, with religion declining in significance, it can be argued that other worldview influences are having a more permeating influence on British death-styles. As already noted, in the UK, funerals no longer necessarily follow a conventional set script as defined by religious scripture, rather, the notion of personalising a funeral is increasingly popular – an attempt to make the funeral about the deceased, their life, and personal beliefs. Accordingly, Davies notes that during twenty-first century Britain, there has been 'growing social awareness that a funeral does not have to be taken by an official ecclesiastical functionary but that clearly secular agents, whether aligned with the British Humanist Association or as independent individuals who may or may not claim religious personal adherence but who are eager in their professional service, are also able [to] offer their client an entirely secular, a religious, or some mixed ritual-symbolic event' (Davies 2015, p. 167). Increasingly, then, individuals seek the assistance of a celebrant who designs the funeral or memorial service based on the wishes of the deceased and bereaved kin, and consequently do not necessarily follow a 'set script', creating a 'personalised' funeral service. Such services may include a mix of religious and non-religious elements or be completely secular in nature (Davies 2015, p. 167; Frisby 2019, p. 146). For example, an eclectic funeral may involve certain elements of religious worship, such as prayer (perhaps framed as 'personal reflection'), but the overwhelming focus of the funeral may be a reflection on the life lived by the deceased. In essence, such funerary services are an extended eulogy and are largely termed a 'celebration of life'. Hence, this variety in practice necessitates the exploration of what I describe as 'eclectic'[99] funeral services. Just as Lyon noted a rise in a consumer-led 'pick'n'mix' approach to religion and a growing 'spiritual supermarket' (Lyon 2000, p. 74), the UK is increasingly witnessing the availability and popularity of what may be termed 'eclectic' funerals. The continued increase in those identifying with 'no religion', underscored by contemporary Census data, emphasises my argument that, correspondingly, in the UK we are witnessing increasingly eclectic death-styles which may not reflect a singularly defined worldview.

[99] This is not how such funerals are commonly described, but the term is useful for encompassing what such a funeral may involve.

A further example of the personalisation of funerary practices by those affiliated with non-religious worldviews may be located in the choice of a humanist funeral service, which is an increasingly popular choice in the British context. Humanists UK celebrants conduct funeral and memorial services for those affiliated with 'no religion'. Humanists UK describes a humanist funeral as a 'a non-religious service that is both a dignified farewell and a celebration of a life' and specify that those who choose a humanist funeral do not necessarily have to identify as 'humanist' (Humanists UK n.d.-a). While one does not have to formally identify as 'humanist', the content of a humanist funeral service is grounded in 'the perspective that we each have one life only' (Humanists UK n.d.-b). Such services may include elements which one may deem as 'religious' – for example, the singing of a popular hymn – so long as they 'help reflect the person' and are not 'an act of worship' (Humanists UK n.d.-a). Hence, a humanist funeral may include eclectic elements, enabling 'personalisation' of the funeral service. In a country with a deeply entrenched Christian history, the enjoyment of a hymn such as *Abide by Me* or *All Things Bright and Beautiful* during a funeral service is not necessarily an expression of explicit religious ritual. YouGov research conducted on behalf of Humanists UK in 2016 found that some 13.51 percent of British people 'would want a humanist funeral for themselves' and 29.62 percent of those surveyed had attended a humanist ceremony (Humanists UK 2016). The figure of 13.51 percent of those surveyed does not seem a hugely significant number of people, however, when compared with the religious identity statistics from the 2011 Census, this figure is comparatively notable. To emphasise, 13.51 percent is nearly three times of the size of the population who identified as 'Muslim' in the 2011 Census in England and Wales, which is the second largest religious worldview in Britain. This is further evidence of the increased influence of non-religious worldviews in Britain and is reflected in choice of funerary practice.

The diversity of what 'eclectic' funeral services can include is vast, but the 'mixed ritual-symbolic' type event described by Davies (2015) is becoming increasingly popular in the British context. Public opinion studies, such as the Co-op's *Burying Traditions* (2019) study conducted by YouGov, trace changing funerary patterns in the British context and suggest a shift towards more eclectic funerary practices. The findings of the *Burying Traditions* study note a distinct shift away from the choice of a 'traditional religious funeral' and towards the personalisation of funeral services (Co-op 2019). Such 'personalised' elements may include, for example, the deceased's favourite song playing at the conclusion of the funeral service. This is true to such an extent that the Co-op publish a 'Funeral music chart' every year, with 'You'll Never Walk Alone' topping the 2021 chart as a 'new entry', popularised by Sir Captain Tom Moore (Co-op 2021). Moreover, personalisation is evidenced in choice of funeral attire: funeral attendees are increasingly requested to wear colourful clothing, the kit or colours of the deceased's favourite football team, or the deceased's favourite colour may be asked to be incorporated in attendees' attire. This represents a notable shift away from conventional black attire, synonymous with mourning, and towards a desire for funerals to be a less sombre occasion. Such personalised funerary choices, including the choice of body disposal method, are increasingly highlighted in media accounts of 'celebrity' deaths, arguably normalising the British shift away from 'traditional' funerals. For example, HRH Prince Philip personalised elements of his Ceremonial Royal Funeral, held in April 2021: the Duke's hearse was a modified Land Rover, which he had helped to design himself; he chose pieces of music which were sung by a choir; and media reports detailed the use of a woollen coffin (The Royal Household 2021). Such personalisation is becoming increasingly normative practice and is illustrated by the fact that some 48 percent of Co-op funeral directors have reportedly been asked to source an alternative mode of transport to the 'traditional' hearse (Co-op 2019). Alternative modes of transport

include, for example, eco-hearses, motorcycle hearses, and tractor and trailer hearses. Moreover, some 64 percent of Co-op funeral directors have reportedly been asked to arrange a personalised coffin (Co-op 2019). HRH Prince Philip's funerary choices shed light on the possibility of personalising funerals on a global scale, even within a funeral fundamentally embedded within tradition. The Duke's funerary choices are representative of the increasingly popular desire for personalised funeral services in the British context. As already noted, this trend is reinforced by the findings of the Co-op's *Burying Traditions* study, which found that 10 percent of respondents[100] said they would want a traditional funeral, while 44 percent reported that they see funerals becoming more informal in the future (Co-op 2019).

The contemporary overwhelming popularity of cremation in the UK has furthermore led to a shift in ritual practices, primarily relating to the 'disposal' of ashes. The shift from the importance of the grave as a final resting place, to the 'final' or perhaps 'liminal' resting place of the deceased's ashes is significant for this discussion. As previously discussed in Chapter 1, there exists no normative 'British' practice following a cremation regarding what to do with the resultant ash. However, as Davies notes, ashes are 'almost always subjected to a second ritual' (Davies 2017, p. 34). The secondary ritual involved with ash 'disposal' is a private-personalised ritual, and often only includes those closest to the deceased, whereas a funeral service may include the entirety of the deceased's wider social circle. Ashes do not tend to be simply thrown away as waste, though some are left uncollected at crematoria and funeral director's premises. Generally, something is done with ashes in the UK – this activity may be as elaborate as ashes being scattered during a skydive or released in a memorial firework, or as simple as the urn being placed on a mantel piece within a family home. My previous reference to a 'liminal' resting place for ashes refers to the fact that the secondary ritual of ash scattering or burial often occurs sometime after the initial collection of the ashes. When cremation first emerged as a funerary option in Britain, ash disposal was largely an institutionalised ritual. As Walter notes, writing in 1994, in Britain 'few families scatter ashes themselves in a do-it-yourself ceremony' (Walter 1994, p. 175). However, as discussed above, normative ash disposal practices have now largely shifted to be private-personal rituals in the contemporary British context.

Contemporarily, rather than an officiant, such as a religious leader, facilitating the interment of ashes in a grave or crematoria staff interring ashes in gardens of remembrance, ashes are taken 'and used in a great variety of ways by the surviving kin' (Davies 2017, p. 36). The range of offerings for ash disposal is vast and expanding, underscoring the opportunity for personalisation afforded by cremation as noted in Chapter 1. Examples of methods of dispersing cremation ashes include: incorporation of ashes into memorial jewellery; burial in biodegradable urns; boat voyages to facilitate ash scattering in water; burial or scattering of ashes at places of significance, such as sports grounds or beauty spots; and 'space burial'. Arnold (2019) discusses this variety in practice and comments that 'in the case of cremation the final disposal is […] [an] ambiguous affair, in that it offers opportunities for forms of embracing and distancing not afforded by burial'. While the interment of ashes in the ground or columbarium closely parallels burial and scattering ashes enables a site to become a memorial site of 'final disposal', the placement of a portion of ashes inside memorial jewellery and ashes kept within the home do not enable 'a "final resting place" as such, and in this sense final disposal of bodily remains never occurs' (Arnold 2019, pp. 132-133). Arnold concludes that while burial 'elegantly integrates the committal, the final disposition, and the final disposal', cremation 'does not draw these three together in finality, but opens them up,

[100] The Co-op's (2019) 'Burying Traditions: The Changing Face of UK Funerals' study surveyed 4,000 British adults.

and the dance with bodily remains is given opportunity to continue through the new options afforded for final disposal' (Arnold 2019, p. 134). Given that cremation currently covers close to 80 percent of funerals in the UK, cremation is inevitably chosen for vastly differing reasons by members of the British public. Consequently, the destinies of cremation ashes are diverse and are representative of the increasingly eclectic nature of the British deathscape.

Moreover, within this discussion of eclectic funerary choices, the increase in 'direct funerals' in the UK is relevant. A 'direct funeral' is a 'funeral' typically without a service or mourners present: direct disposal. In the UK, direct disposal is most commonly direct cremation rather than direct burial. Nonetheless both direct cremation and direct burial are possibilities and may be followed by a memorial service or other signifying event, without the presence of the body. Woodthorpe et al. (2021) note that direct cremation was formally introduced as a marketed funerary option in the UK in 2012. By 2019, direct cremation reportedly covered 3 percent of all cremations in the UK, 'rising to 6 percent if the definition includes a cremation with a separate (typically invite-only) celebration of life service or commemoration' (Woodthorpe et al. 2021, p. 3). According to SunLife, this number increased to 14 percent of funerals in 2020; 18 percent of funerals were direct cremations in 2021; and between February 2020 and July 2021, during the height of the COVID-19 pandemic, 24 percent of funerals were direct cremations (SunLife 2022, p. 15). Hence, the trend of direct funerals dramatically increased during the COVID-19 pandemic, largely due to restrictions imposed on funeral services, as discussed in Chapter 2. Restrictions imposed on funerary activity included limits on the number of mourners permitted to attend funeral services, inability to or restricted travel, and self-isolation rules, amongst other complications, making attendance at funerals difficult. The upward trend of direct funerals in the UK is yet to be traced as continuing quite so dramatically beyond the pandemic. Nonetheless, the market for direct funerals has certainly increased in the UK, with the number of providers on the rise. In 2022, 18 percent of all funerals in the UK were reportedly direct cremations (SunLife 2023). Moreover, SunLife found that 71 percent of the British population are 'now aware of direct cremations', which is an increase of 7 percent since 2021 and 'marks a big jump from 2019, when only 52 percent of people were aware' (SunLife 2023, p. 17). The marketing of direct funerals is a particularly intriguing issue for analysis. Referring again to media accounts of 'celebrity' deaths, David Bowie's choice of direct cremation featured in media headlines in 2016 when it was widely reported that Bowie chose to have a direct cremation in order to 'go without any fuss' (Bryant 2016). As with the previous example of HRH Prince Philip, such media attention alerts the public to the availability of such options. Hence, not only is the UK witnessing an increased desire for 'eclectic' funerals, but moreover, the absence of funerals – or, at least, the absence of services with the body present. With such increasing diversity, it may become apparent that a change to the conclusion of a funeral, specifically from cremation to AH, will not be difficult for the British public to accept. Perhaps the most significant influence of 'celebrity culture' on change within the British deathscape will be Archbishop Desmond Tutu's choice of AH in January 2022 (BBC 2021), discussed both in the following section and in Chapter 6.

## ALKALINE HYDROLYSIS IN THE BRITISH DEATHSCAPE[101]

In the UK, religious institutions have overseen funerals and their services for centuries. As demonstrated throughout this chapter, British funeral services are now conducted by a diversity of religious, spiritual, secular, and humanist providers. Alongside the variety of providers and scope for the personalisation of funerary ritual, the UK faces a widening choice of methods for disposing of the dead. As already expressed, theological teachings regarding the end of life are inherently linked with the choice of method of body disposal for some Britons. Funerary rituals are vehicles for meaning and can be strong expressions of belief. The variety of rituals and their theological significance in the world's religious traditions is vast. This is also true within cultural and ideological worldviews. Having explored both the religiously influenced and eclectic death-styles prevalent in the British deathscape, attention is now drawn to a consideration of how AH may fit within the British deathscape in accordance with cultural, religious-theological, and non-religious worldviews. The section begins with a consideration of AH's consistency with different theologies, before turning to what may be classified as more 'non-religious' considerations. At the outset, I stress the speculative nature of the analysis that follows.

### *POSSIBLE THEOLOGICAL APPROACHES*

Given the variety of religious worldviews prevalent in the contemporary British context, a consideration of how religious traditions may respond to AH is necessary for this discussion. Internationally, religious traditions as 'institutions' have largely remained silent on the topic of AH. Thus far, religious proclamations on AH have mostly come from individuals rather than institutions, four major examples include: (i) a Catholic moral analysis of the AH process published by Sister Renée Mirkes in 2008; a statement of opinion on AH published by the Catholic Bishops of Missouri in 2018; (iii) Archbishop Desmond Tutu's choice of AH[102] following his death on 26 December 2021; (iv) a statement 'On the Proper Disposition of Bodily Remains' published by the United States Conference of Catholic Bishops in 2023. Despite these four instances, the formal opinion of religious traditions concerning AH remains largely unknown. So, how will religious traditions respond to the prospect of AH as a method of dead body disposal in the UK? At face value, because AH has largely been posed as an alternative to cremation with its 'ash' residues, it may be assumed that the religious traditions that practice cremation are perhaps most likely to be accepting of AH; conversely, that the religious traditions that practice burial are less likely to be accepting of AH. However, this assumption does not adequately consider the theological reasonings for the preference of body disposal method in each worldview. In a technical sense, I argue that the practice of AH lies somewhere between the practices of burial and cremation: in burial and AH, hydrolysis of the human corpse occurs; and in cremation and AH, a 'chemical' process occurs – combustion in cremation, and reduction in AH. Where AH sits theologically, then, is not necessarily straightforward. To further explore possible religious perspectives on AH, understanding how the AH process compares theologically with the practices of burial and cremation, including by how the process 'treats' the body, is important.

[101] Vast elements of this section are written akin to the section concerning 'Resomation and Religion' in Robinson (2021a).
[102] Tutu was 'privately aquamated' after his funeral service on 1 January 2022. His remains were then interred at St George's Cathedral, Cape Town, South Africa. Although no religious proclamation followed Tutu's AH, the news of Archbishop Desmond Tutu's choice of AH was perhaps the most significant 'statement' on AH from any religious authority to date. Tutu's choice of AH may have a similar influence on Christian perspectives of AH as the cremation of Dr William Temple, the Archbishop of Canterbury, on 26 October 1944, did for cremation 'legitimising' cremation for Anglicans (Jupp 2006, p. 142).

While AH has largely been posed as an alternative to cremation, the process mimics the natural decomposition process that occurs during underground burial. However, this process similarity between burial and AH is unlikely to persuade Islamic or Orthodox Jewish leaders to consider the use of AH as an appropriate method of body disposal. Although AH mimics a natural process, arguably, it is not 'natural' in the same way that simply burying a corpse in the ground is because AH is a technological process. Moreover, Islamic and Jewish traditions largely reject the acceptability of the practice of cremation and have strong theological reasoning for prescribing burial of the body, as discussed earlier in this chapter. Despite the possibility for the ashes following cremation to be buried and 'laid to rest', the two acts are not deemed as comparable theologically in the Islamic or Jewish traditions. The same conclusion is likely to be the case with AH due to the theological basis for the prescription of burial. Likewise, while AH is similar to cremation, it is the act of burning the corpse through the process of cremation that is significant for the theologies of Buddhism, Hinduism, and Sikhism – therefore, the AH process may not compare theologically with cremation. With AH, there is no 'release' into the air in the way that there is in the process of cremation through burning. For this reason, the AH process may not be capable of aiding the release of the soul in the way that cremation does for the tradition of Hinduism. However, AH would enable consistency in the Hindu ritual of depositing the ashes following cremation in the Ganga or the Yamuna (or local river or sea) which symbolises 'the final departure or 'seeing off' of the *ātman* on its journey to the next life' (Firth 1997, p. 90); this could therefore be a theological possibility for AH. The residual water from AH could also have theological significance with regards to the journey of the ātman. This analysis is, however, merely speculative and is not derived from theological proclamations from leaders of the religious groups discussed. With regards to practical application, Olson's work is noteworthy. In 2013, Olson conducted interviews with Anderson McQueen Funeral Home and Bradshaw Funeral Services, two funeral homes that have provided[103] AH in the USA, and found that neither funeral home had encountered interest for AH from the Hindu and Buddhist communities who employ them to perform cremations (Olson 2014, p. 680). This suggests that although the results of AH and cremation may be similar, in that 'ash' is produced, the processes differ to such an extent that for some traditions, the two processes may not be theologically comparable. I return to ritual possibilities afforded by AH and practical examples of these in Chapter 4.

### *CATHOLIC STANCES*

As previously noted, thus far, leaders from within the Catholic Church have been the most outspoken of all religious authorities regarding the practice of AH; nevertheless, there is disagreement on the Church's stance. Increasingly, US Catholic Bishops are speaking out against both AH and NOR as legislative proposals for the innovative disposal methods are brought to state legislatures throughout the USA. As this research draws to a close in early 2023, the most contemporary example of such opposition is the publication of a statement of the United States Conference of Catholic Bishops' Committee on Doctrine on 'On the Proper Disposition of Bodily Remains' on 20 March 2023. The statement 'reiterates the Church's preference for burial of the human body' and argues that AH and NOR 'fail to manifest the respect for last remains that Catholic faith requires' (United States Conference of Catholic Bishops' Committee on Doctrine 2023, p. 2). The language in this statement echoes that used in a former statement on AH published by the Catholic Bishops of Missouri, discussed subsequently.

[103] Anderson McQueen Funeral Home began offering AH in 2011 but was bought by the Foundation Partners Group in 2017 and no longer offers AH.

Nevertheless, there has been no statement released from the Vatican concerning AH, unlike in the case of cremation. In 2008, Sister Renée Mirkes published the first Catholic moral analysis of the AH process. Mirkes concluded that AH is 'in and of itself, a morally neutral action' (Mirkes 2008, p. 695). Mirkes notes that the Catholic Church had forbidden the practice of cremation for over nineteen centuries. However, as previously noted, in 1963, the Catholic Church altered its position on cremation (Holy Office 1963). While burial remains the 'preferred' disposal method for the Catholic Church, cremation is now deemed as an acceptable practice when it is performed out of necessity and there is no denial of the Christian dogma regarding the resurrection of the dead and the immortality of the soul (Congregation of the Doctrine of Faith 2016). In 1966, the papal ban on cremation 'was completely lifted, opening the door to Catholic prayers and rites at the place of cremation' (De Spiegeleer 2019, p. 188). Accordingly, Mirkes questions whether AH could qualify 'in cases of necessity' as a 'moral alternative to Christian burial' in the same way that cremation does (Mirkes 2008, p. 685). Mirkes suggests that if AH was 'chosen for good reasons (environmental, economic, financial, or psychological) and in a manner that comports with the resurrection of the body, it would be a moral means of final disposition' (Mirkes 2008, p. 691).

Conversely, in 2018, the Catholic Bishops of Missouri issued a statement to express their opposition to the practice of AH. The statement was issued in response to the proposition of the legalisation of the AH process as a disposal method in the state. Similar statements have been published by other Catholic Dioceses in the USA in relation to AH and, more recently, concerning the NOR process. In the statement, the Missouri Bishops collectively argue that they do not deem the AH process to be 'intrinsically wrong', nonetheless, they believe that AH 'fails to show due reverence for and respect for the human remains of the deceased by subjecting the soft tissue and vital organs to be flushed into the sewer system' (Catholic Bishops of Missouri 2018). As stressed in Chapter 1, it must be underscored that all disposal techniques fundamentally interact with the water cycle in some way, albeit this interaction is more obvious with AH. As Mirkes notes, 'the flashpoint of indignity with alkaline hydrolysis – specifically, pouring the liquid remains down a drain – is found in similar form in the seepage after burial and in cremation through rain' (Mirkes 2008, p. 694). Moreover, the embalming process, sometimes used to preserve the appearance of the body before disposal, literally 'pours' human bodily fluids down a drain without any treatment proceeding this action. Despite this, the Catholic Church 'does not forbid embalming' (Mirkes 2008, p. 694), 'nor does it consider embalming disrespectful toward the body' (Lasnoski 2016, p. 235) for essentially the same reason that the Missouri Bishops suggest that AH should not be used. The Bishops raise their concern because they see the AH process as 'separating' the component parts of the body, and therefore believe that it does not treat the human body with respect. However, Lasnoski importantly highlights that it is a practical impossibility to remove '100 per cent of the ashes' following a cremation meaning that the body is potentially separated, yet the Church is accepting of cremation. In direct contrast, AH 'provides the possibility of retaining the entirety of the fragmented body – of keeping both the aqueous and the solid remains' (Lasnoski 2016, p. 236). Nonetheless, the notion of the separation of the component parts of the body in the AH process remains overpowering in the Bishops' theological argument for rejecting AH. Thus, the Missouri Bishops conclude by asking that 'the Catholic faithful' reject the use of AH unless in a 'situation of dire need' (Catholic Bishops of Missouri 2018). This maintains the position that Mirkes suggests peers ought to adopt in the conclusion of her moral analysis in that the Bishops do not suggest that the AH process is 'inherently evil', albeit they advise against its use (Mirkes 2008, p. 695). These theological concerns will likely resonate with many believers, including those

who do not believe that cremation is the correct way to treat the human body after death. However, as with cremation, the Catholic Church may come to deem the AH process as theologically acceptable in the future, particularly if the process rapidly increases in popularity across the world. Furthermore, if the climate crisis continues to worsen, then perhaps the 'situation of dire need' necessitating AH will be actualised.

### *THE CHURCH OF ENGLAND'S PERSPECTIVE*

Close attention ought to be paid to the contemporarily developing context relating to the Church of England's formal position on AH. Professor Douglas Davies has been in conversation with Bishops within the Church of England regarding their opinions of AH for a number of years and was invited to a meeting of the UK Churches' Committee on Funerals, which convened on 13 March 2023, to discuss AH. However, news broke publicly that the Church of England may consider its theological stance in relation to AH on 6 February 2023 (see, for example: Burgess 2023a, b; Sherwood 2023; Swerling 2023a, b) when a question on the matter was brought to the General Synod by Reverend Canon Andrew Dotchin, the Church of England's representative for the Churches' Funeral Group. Dotchin reportedly submitted a written question to the General Synod of the Church of England, referring to the 'environmental costs of current and future means for the disposal of human remains', asking the Synod whether 'there are any 'theological objections' to either resomation or human composting' (Swerling 2023a). Replying on behalf of the Chair of the House of Bishops, Rt Reverend Dr Michael Ipgrave explained that there 'has not been any formal theological consideration of either resomation or human composting' (Swerling 2023a). Speaking to the BBC (2023), Dotchin explained that for him, 'the theology is not difficult' and drew comparison of the AH process with the symbolism of baptism – a concept that is explored in Chapter 4. Dotchin expressed that he believes that 'all methods of care for the deceased are […] able to be resolved with Christian belief' (BBC 2023). Despite these progressive developments, discussions concerning the Church of England's formal stance on AH remain ongoing.

### *NON-RELIGIOUS APPROACHES*

Considering non-religious worldviews, it is evident that choice of funeral will largely be underscored by an individual's personal preference. As with the religious worldviews explored, the notion of symbolism and the imagined state of the body may be important considerations in determining choice of funeral. However, it must be emphasised that this consideration is likely to focus on the dignified treatment of the deceased, rather than the 'destiny' of the deceased's remains. In reference to more formalised non-religious worldviews, it is notable that Humanists UK does not dictate what method of body disposal ought to be chosen. As previously noted, the focus of a humanist funeral service is the life lived by the deceased, with an emphasis on the singularity of that life. Hence, with the focus on the life of the deceased, the 'four motivations' driving the choice of AH in the USA, as defined in Chapter 4, are likely to appeal to those with non-religious worldviews by facilitating life- and death-style alignment. As noted in Woodhead's (2016) study, the diversity of the 'nones' in Britain is vast, therefore, it is not possible to describe a unified typical funeral experience of those who identify as having 'no religion'. In Britain, cremation is overwhelmingly the most popular funerary choice, covering close to 80 percent of funerals; correspondingly, burial covers approximately 20 percent of British funerals. Increasingly, an individual's lifestyle is reflected in their death-style, as exemplified by the increased personalisation of funerals in the contemporary British context. As such, the choice of AH may find strong influences in ideological worldviews –

in particular, environmentalism – this is also true of the choice of natural-woodland burial. The introduction of natural-woodland burial allowed an individual's death-style to become aligned with their lifestyle in a way not previously possible in the UK (Davies 2005a; Davies and Rumble 2012; Davies 2015): it made it possible for an environmentally framed life to continue through to death. Moreover, the popularisation of natural-woodland burial in the UK represents a shift in popular understanding regarding the factors influencing choice of corpse disposal: namely, a growing demand for an explicitly sustainable option. Hence, the need for the widespread availability of natural-woodland burial in the UK is demonstrative of an environmental pull for some when it comes to making decisions concerning funerary choices. However, given the dramatic popularity of cremation in the UK, further choice is needed in order to enable sustainable lifestyles to be emulated in death-style for those who do not wish to be buried. AH provides a further opportunity for those ecologically minded. I argue that a shift in British death-styles to AH can be assumed to be rooted in those who presently choose cremation for non-religious reasons. Accordingly, in terms of popular acceptability, AH's similarity at face-value to cremation for the 'consumer' may be indicative of its potential popularity in the UK. I suggest four key similarities:

(i) Choosing AH would not require any change to the desired funeral service (or lack of service) of the deceased.

(ii) The kin receive 'ashes' following the AH process.

(iii) The cost of AH is predicted to be approximately equal to, or less than, that of cremation.

(iv) The AH process takes a similar length of time to complete as cremation.

Given that cremation presently covers nearly 80 percent of funerals in the UK, the premise of an environmentally sound alternative to cremation which does not require any changes to the experience of funerary practice for the bereaved, specifically AH, may appeal on these grounds as an environmental alternative to cremation. Consequently, despite their paradoxical nature, the use of terms such as 'water cremation' or 'green cremation' to describe AH may aid public understanding and subsequent popularity of AH in the UK for those choosing between cremation and AH. The issue of colloquial names for AH is discussed in more depth in the following chapter.

The rise in direct disposal is noteworthy in relation to the prospect of AH in the British context. This is because it is expected, through Kindly Earth's service provision of Resomation, that AH will be offered as 'Direct Resomation', with the option to arrange a separate funeral service through a funeral director. At face value, the offering of AH should not change the experience of the bereaved. The major difference is that the body would be taken to a Resomatoria for disposal rather than being disposed of at the site of the funeral service. However, in the UK, it is not typical for kin to follow the coffin to the cremator at the conclusion of the funeral service. Hence, this difference is unlikely to influence the experience of the bereaved as it largely falls into the category of 'back-stage' or 'behind the scenes' practice. In the UK, cremation services typically conclude with a committal. Rugg and Parsons (2018) note that there is some regional variation in the practice of committal at crematoria in the UK. However, one of three options will normatively occur in the UK: (i) a button is pressed which triggers the drawing of curtains around the catafalque; (ii) the coffin is moved out of view on a conveyor or rollers; (iii) the coffin remains in place on the catafalque and mourners are invited to leave the crematorium chapel (Rugg and Parsons 2018, p. 85). Arnold terms the three forms of committal the 'curtained committal', 'moving committal', and 'stationary committal' respectively (Arnold 2019, pp. 128-129). Hence, AH occurring somewhere other than

where the funeral service occurred may not be of great concern given both the normative practice of the committal in the UK for cremation and because of the contemporary increase in direct cremations in the British context.

To summarise, my analysis of the contemporary British worldview landscape and corresponding deathscape suggests that the vast majority of the British population who choose to be cremated do not do so for *explicitly* religious reasons. Looking to the theology motivating funerary choice in relation to the worldview identification of the British population, it is plausible to use the 2021 Census data to underscore this argument. In the breakdown of religiously influenced death-styles, the worldviews that explicitly favour cremation (Hinduism and Sikhism) make up 2.6 percent of the population of England and Wales, increasing to 3.1 percent if the Buddhist population is included in the analysis (Office for National Statistics 2022). Set alongside these statistics, close to 80 percent of the British population presently choose cremation. Therefore, even though the vast majority of those identifying with worldviews that explicitly have a death-style of cremation are very likely to choose cremation, the proportion of UK cremations that they represent is not momentous. While the inclusion of the population who identify as 'Christian' would increase the proportion of those who are 'religiously affiliated' and likely to choose cremation to 49.3 percent, it is not plausible to argue either that (i) all British Christians choose cremation, or (ii) that British Christians who *do* choose cremation do so for *explicitly* religious reasons (i.e., cremation is actively promoted by Christian institutions). Moreover, (ii) is especially true when considering the phenomenon of 'nominal' Christianity prevalent in the UK, meaning that not *all* 'British Christians' may be classified as 'religious' or 'practising' Christians (Day 2011). Furthermore, as in the USA, there is a significant economical difference between burial and cremation in the UK, meaning that many Britons are likely to choose cremation as an economical and practical choice. As such, the economic difference between burial and cremation is a possible influential factor driving the increased popularity of cremation, and potential popularity of AH, in the UK. Furthermore, because the re-use of graves is not commonplace in the UK, it is becoming increasingly difficult to buy burial plots. Accordingly, I argue that economic and practical factors are far more likely to have a strong influence on choice of funeral in the UK than religious influences will. Hence, there are a number of reasons why cremation is popular in the UK, which lay the contextual groundwork for how I perceive AH to become a popular choice. Simply put, that due to the similarity in the experience for the bereaved and economic comparability, AH is likely to be popular among those who presently choose cremation for non-religious reasons in the contemporary British context.

## THE FUTURE OF THE BRITISH DEATHSCAPE

As expounded throughout this chapter, the British deathscape encompasses increasingly varied death-styles. While, at present, there are only three choices available at the end of life in the British context – traditional burial, cremation, and natural-woodland burial – the rituals associated with these practices are innovatively changing, with the personalisation of funerary rituals becoming normative practice in the UK. Changing funerary trends are increasingly the focus of academic and industry attention, both in the UK and elsewhere. In academia, this discussion has coincided with the exploration of the secularisation of Britain (Woodhead 2017; Field 2022). Likewise, industry reports, such as the Co-op's (2019) *Burying Traditions* and SunLife's (2023) *Cost of Dying Report*, emphasise a move away from 'traditional' funerary services, typically associated with religious ritual practices, and a shift towards an increased desire for the personalisation of funerary services in the UK.

Such trends do not simply relate to funerary ritual in the form of the content of funeral services, but, over the course of the twentieth century, additionally began to influence choice of disposal and subsequently memorialisation. As reiterated throughout this thesis, the introduction and popularisation of cremation in the UK is vital socio-historical background to the prospective popularisation of AH in the UK. The popularisation of cremation in the UK during the twentieth century, and particularly its increased uptake following the Second World War and rapid uptake during the 1960s, reflects a changing society – a changing society which may be theorised by increased secularity. Returning to the Cremation Society's motto 'Save the land for the living', we see a shift from 'other' worldly to 'this' worldly focus. In the twenty-first century, while the Society's motto relating to land use remains imperative, the overriding message of the motto emphasises the impact that the dead can have upon the living: today, that is the environmental impact of funerary practices, which no longer simply concern issues relating to land use, but also emissions and resources.

In an increasingly secular society, which has an overarching narrative of heightened environmental concern, it is plausible to argue that there will be a shift in British death-styles to reflect this narrative. This hypothesis is supported by the findings of unpublished YouGov research conducted on behalf of GreenAcres which found that some 53 percent of the population believe that it is important to consider the impact on the environment in funeral planning, with women (59 percent) and those aged between 24- and 35-years-old (60 percent) being the largest groups to report the importance of this consideration (YouGov 2022d). AH is not the only innovative and sustainable funerary option that is set to enter the British deathscape, with other sustainably framed options – such as NOR – expected to enter the British deathscape in the future, though this is anticipated to be at a slower timescale than AH. As with AH, NOR has already been adopted in the USA, with the process first legalised in Washington state in May 2019. Its status in the British context is less established, however, the process is being developed in the UK for commercial use. AH is expected to begin commercially functioning in the UK in 2023. While it is almost impossible to predict AH's potential popularity in the UK, given the increasing diversity of British death-styles, demonstrated particularly by this chapter's exploration of 'eclectic' funerals, the provision of a further funerary choice will allow for further diversity in the British deathscape and will likely be embraced by many. The increasing diversity of British death-styles implies that there will certainly be some positive uptake of AH, even if the proportion of the uptake is not known at present. Having mapped the contemporary British deathscape and outlined how worldviews influence British death-styles, including the prospective choice of AH, the next chapter turns to the context of the United States of America, where AH has been a functioning funerary option in some states for over a decade. The chapter frames the American deathscape, documents the history of AH in the USA, and, using insights from fieldwork conducted in the USA, explains how AH has been offered to Americans to illustrate how AH may be presented in the British context. Moreover, the chapter further explores cultural-religious influences motivating the choice of AH and posits ritual opportunities afforded by AH.

# IV

# INNOVATION IN ACTION: ALKALINE HYDROLYSIS IN THE UNITED STATES OF AMERICA

Following the previous chapter's extensive discussion concerning the influence of worldview on British death-styles, this chapter discusses the status of AH in the United States of America and seeks to provide foundational comparative analysis of the USA and UK contexts. Elements of the chapter are historical in nature, documenting the legal status of AH alongside details of functioning AH systems in the USA. The chapter briefly discusses the contemporary deathscape and worldview landscape of the USA to frame the analysis, before exploring insights from the field. The most significant contribution of this chapter is the analysis of fieldwork data from fieldwork conducted by the author in the USA in April 2022. Fieldwork was primarily conducted in Minnesota, USA, with the addition of a site visit to Bio-Response Solutions in Indiana, USA. The purpose of the fieldwork was to establish how AH has been adopted and offered commercially in the US funeral industry. In terms of methodology, four key methods were used: (i) semi-structured interviews, which were recorded and later transcribed, averaging between an hour and three hours in length; (ii) unstructured conversations; (iii) observation, including site tours and witnessing AH systems in use; (iv) analysis of marketing materials. Three site visits of industry providers of AH in Minnesota, USA, were conducted: Bradshaw Funeral Services, Bradshaw Celebration of Life Center, Stillwater, MN; Ballard-Sunder Funeral & Cremation, Ballard-Sunder Funeral & Cremation Reflections Crematory, Jordan, MN; Metro First Call, Savage, MN. At all three sites, I interviewed the individual who made the decision to invest in AH technology: Jason Bradshaw, CEO and President of Bradshaw Funeral Services, Mark Ballard, Owner of Ballard-Sunder Funeral & Cremation, and Tim Koch, Owner of Metro First Call. At Ballard-Sunder's, I also interviewed two funeral directors who have worked with AH, Jaylene Telford and Matt DeRuiter. Additionally, I interviewed: Dean Fisher[104] and Terry Regnier,[105] pioneers of AH technology at Mayo Clinic, Rochester, MN, and UCLA, Los Angeles, CA, in the case of Fisher; Nicki Mikolai, Sales Manager of Resomation America; Joe Wilson, Founder and CEO of Bio-Response Solutions; and Samantha Sieber, VP Research at Bio-Response Solutions. The Director of Anatomical Services at Mayo Clinic completed a written questionnaire about the use of AH at Mayo Clinic. Unfortunately, because COVID-19 policies were still in place at Mayo during the fieldwork period, it was not possible to conduct an interview with the Director or formally tour the AH facility, but Fisher and Regnier provided vast insights about the decision to invest in AH technology at Mayo Clinic. Minnesota was chosen because it was the first state in the USA to formally legalise AH, with the Mayo Clinic being the first institution in the world to perform funerary style[106] AH in 2006. Bradshaw Funeral Services began offering AH in 2012, Metro First Call in 2018, and Ballard-Sunder Funeral & Cremation in 2020.

[104] Dean Fisher was Director of Anatomical Bequests at Mayo Clinic 1988–2008; Fisher then became Director of UCLA's Donated Body Program in 2008 and held the role until 2020.
[105] Terry Regnier was an Anatomy Assistant at Mayo Clinic 1997–2008, and then became Director of Anatomical Bequests at Mayo Clinic when Fisher left for UCLA in 2008. Regnier held the role at Mayo Clinic until 2021.
[106] The use of the term 'funerary style' is to distinguish single-body AH machines from those designed for multiple body parts. As subsequently discussed, Shands Hospital at the University of Florida was the first institution to use AH for human corpses, however, this machine was not designed or operated in a funerary style.

## THE AMERICAN DEATHSCAPE

As is the case in the UK, throughout the USA, burial and cremation are legal methods of dead body disposal. Unlike in the UK, in some parts of the USA, two further options are legally possible: alkaline hydrolysis and natural organic reduction. According to the Cremation Association of North America (CANA) (2021, 2022), the USA cremation rate has consistently grown by 1.5 percent per year since 2019: in 2019, the cremation rate was 54.4 percent, this increased to 56 percent in 2020, and is predicted to have increased to 57.5 percent in 2021 (CANA 2022). The state of Nevada has the highest cremation rate in the USA, with 81.6 percent of funerals conducted in 2020 involving cremation; the states of Oregon, Washington and Maine all had a cremation rate over 78 percent in 2019 and 2020 (CANA 2021, 2022). In total, eleven states had a cremation rate over 70 percent and thirty-five[107] states had a cremation rate over 50 percent in 2020. This is projected to have increased to forty states with a cremation rate over 50 percent in 2021, and twelve of those states are predicted to have a cremation rate over 70 percent. In Minnesota, 69.9 percent of funerals conducted in 2020 involved cremation; the projected figure for 2021 is calculated as 71.4 percent (CANA 2022). CANA does not provide details of the percentage of AH's conducted per year, despite including AH in its definition of cremation,[108] which was adopted by CANA's Board of Directors in February 2013 (CANA 2018). The UK and USA had a similar trajectory in the early innovation of modern cremation in the late-nineteenth century, yet the vast popularisation of cremation differs in each context. The overall cremation rate in the USA is substantially lower than in the UK, however, the rate is comparable with the UK rate in approximately one-fifth of states. In the USA, cremation overtook burial as the favoured method of body disposal for the first time in 2016, with a cremation rate of 50.1 percent (CANA 2022). As previously noted, the cremation rate overtook that of burial in the UK in 1968 (Cremation Society of Great Britain 2022); in 1968, the cremation rate was 4.35 percent in the USA (CANA 2022). Despite the slower shift in trend from burial to cremation, the statistics demonstrate a trend with an upward trajectory – cremation is becoming more popular year on year in the USA, with a present trajectory of a 1.5 percent increase in the number of cremations per year.

As in the previous chapter discussing popular death-styles within the British deathscape, it is necessary to consider the worldview landscape of the USA to frame the analysis of the USA's uptake of AH within its deathscape. According to Pew Research Center data, in 2015, 70.6 percent of the USA population reportedly identified as 'Christian', 5.9 percent of the population identified with 'non-Christian faiths', and 22.8 percent of the population reportedly identified as religiously 'unaffiliated' (Pew Research Center 2015, p. 4). In terms of 'non-Christian faiths', the affiliation of the 5.9 percent of the population who identified with 'non-Christian faiths' is categorised as follows: 1.9 percent Jewish, 0.9 percent Muslim, 0.7 percent Buddhist, 0.7 percent Hindu, 0.3 percent 'other world religions', and 1.5 percent 'other faiths' (Pew Research Center 2015, p. 4). As is the case in the UK, the 'nones' are increasing in number in the USA, with a 6.7 percent increase in those identifying with 'no religion' between 2007 and 2014. Moreover, the Christian population declined by 7.8 percent in the same period, suggesting a concurrent shift in worldview similar to that evidenced in the British context. The findings specify that the majority of 'nones' describe 'themselves as having no particular religion (rather than as being atheists or agnostics), but the "nones" appear to be growing more secular', with atheists and agnostics accounting for 31

[107] This figure includes the eleven states with a cremation rate over 70 percent.
[108] CANA defines cremation as 'the mechanical, thermal, or other dissolution process that reduces human remains to bone fragments. Cremation also includes processing and pulverization of the bone fragments into pieces that are usually no more than one-eighth inch in size.' (CANA n.d.-b).

percent of the 'nones' (Pew Research Center 2015, p. 30). Fieldwork was conducted at sites in Minnesota, USA, and thus attention must be paid specifically to the worldview landscape of the state. The worldviews manifested in Minnesota largely reflect the overall worldview landscape of the USA. According to the 2014 Religious Landscape Study,[109] 73 percent of the population of Minnesota broadly identify as Christian, 1 percent identify as Jewish, 1 percent identify as Muslim, 1 percent identify with 'other world religions', 1 percent identify with 'other faiths', and 20 percent identify as 'unaffiliated' (Pew Research Center 2015, p. 144). In the metropolitan area of Minneapolis, 70 percent of the population broadly identify as Christian, 1 percent identify as Jewish, 1 percent identify as Buddhist, 1 percent identify with 'other world religions', 1 percent identify with 'other faiths', and 23 percent identify as 'unaffiliated' (Pew Research Center 2015, p. 147). Hence, as in the British context, the USA is comprised of increasingly diverse worldviews. The largest groups are those who broadly identify as 'Christian' and those who are 'unaffiliated' with any religious tradition, as is the case in the British context.

This increasingly diverse and changing worldview landscape in the USA is reflected in changing trends in funerary practice, as has been evidenced in the British context, discussed in the previous chapter. For example, the USA National Funeral Directors Association (NFDA) report that 'a surge in the number of Americans who no longer identify with any religion has contributed to the decline of the traditional funeral in the U.S. and the rise of cremation as the disposition method of choice' (NFDA 2021, p. 4). Consequently, the notion of a 'traditional' American funeral, often perceived as a lavish funeral service, preceded by visitation of the embalmed deceased, presented in a mahogany open-casket coffin, and concluded by burial in a vaulted grave, is no longer typical practice in the USA, with nearly three-fifths of Americans now opting for cremation (CANA 2022). CANA significantly notes that while recent increased death numbers were driven by COVID-19, which may be assumed to be the reason for a higher cremation rate in the USA in recent years, 'choosing cremation is driven by consumer choice' (CANA 2022). Hence, this shift away from 'tradition' is likely to continue to gain traction, particularly as the population ages and those with shifted priorities begin planning funerals. One reason for this is arguably increased secularity in the USA motivating the choice of cremation, as posited by the NFDA, who found that between 2012 and 2019, the percentage of those aged 40 and over who 'feel it is very important to have religion as part of a funeral' decreased from 49.5 percent to 35.4 percent (NFDA 2021, p. 4). It is evident, therefore, that American priorities in relation to funerary choices may be shifting away from 'traditional' funerary practices and towards other concerns, including the cost of funerals and the environmental impact of a funeral. Increased demand for sustainable choices, including AH and NOR, in the form of legislative change is demonstrative of this shift. Moreover, the environmental impact of funerals has been evidenced as a concern in two consumer preferences surveys. According to the *Green Funerals and Burials Survey* conducted by Kates-Boylston (2021), 91 percent of respondents consider the environmental impact of a funeral to be important. Additionally, according to the *Consumer Awareness and Preferences Survey* conducted by the NFDA, 55.7 percent of respondents 'would be interested in exploring "green" funeral options' (NFDA 2021, p. 11). Hence, there is some overlap in the trajectory of changes in funerary practice and the motivations driving such changes in the USA and UK contexts.

[109] In terms of methodology, the 2014 Religious Landscape Study asked participants: 'What is your present religion, if any? Are you Protestant, Roman Catholic, Mormon, Orthodox such as Greek or Russian Orthodox, Jewish, Muslim, Buddhist, Hindu, atheist, agnostic, something else, or nothing in particular?' (Pew Research Center 2015, p. 116). The choice of methodology is qualified by Pew in the following way: 'By explicitly offering respondents the chance to identify as atheist, agnostic or "nothing in particular," the Religious Landscape Study question may make it easier for marginally religious people who once thought of themselves as Catholics, Protestants or members of another religious group to identify as religious "nones."' (Pew Research Center 2015, p. 116).

Considering the extended period of time that it took for cremation to become normative practice in the US context, it is especially intriguing to emphasise that the US has been the most 'progressive' country in the world in terms of introducing new funerary innovations. The USA and UK contexts differ quite considerably when assessing their cremation statistics in light of the introduction of AH and other innovations: when Mayo Clinic began using AH in 2006, the cremation rate in the USA was 33.8 percent, and when the first two commercial installations began offering AH in 2011, the cremation rate in the USA was 42 percent (CANA 2022). The UK cremation rate sits around 80 percent, whereas the US cremation rate remains some 23 percentage points lower, sitting at 57.5 percent in 2021 (Cremation Society of Great Britain 2022; CANA 2022). Perhaps this is suggestive that despite the lower cremation rate, consumerism has driven demand for change in the US funeral industry in a far more widespread way than in the British context over the last two decades. The notion of 'consumerism' in the British funeral industry is very much in a seedling phase compared with the US context. However, if such change has been possible in the conventionally conceived 'traditional' US funeral industry and corresponding deathscape (Mitford 1963), this is positively suggestive for the future of the British deathscape.

To frame the American context, I analysed the funerary laws of every state in the USA to establish the legal position of AH throughout the USA. In the USA, the legal system is separated into federal and state law. Laws concerning the funeral industry are handled at state level; thus, every state has its own laws concerning the disposal of the body after death. Consequently, while AH is legal in multiple states in the USA, the precise legal position differs state to state. AH is typically defined into USA law in one of two ways: either (i) the cremation definition is expanded or includes reference to 'thermal' or 'chemical' means of reducing the body; or (ii) alkaline hydrolysis is explicitly defined within the legal statute. AH is specifically included in the legal statutes of nineteen states; seven states implicitly include AH in their definition of cremation. Minnesota was the first state to formally legalise AH, under Minnesota §149.02A (Minnesota State Legislature 2003), adding a definition of 'alkaline hydrolysis' to the statutes. Detailed data on the legal position of AH have not been published in academic settings. Webpages, such as NOLO,[110] publish information regarding the legal position of AH in each state, but it is not clear when such pages were last updated or if the information has been verified. For example, the NOLO site is currently outdated, missing the details of recent legislation on AH in eight states. My analysis found that AH is presently[111] legal in twenty-six states: Alabama, Arizona, California, Colorado, Connecticut, Florida, Georgia, Hawaii, Idaho, Illinois, Kansas, Maine, Maryland, Minnesota, Missouri, Nevada, North Carolina, Oklahoma, Oregon, Tennessee, Utah, Vermont, Virginia, Washington, West Virginia, and Wyoming (see Table 1). Furthermore, my analysis found that AH is currently either under legal consideration or is set to be under legal consideration in at least ten states. AH is not functioning in all twenty-six states in which it is legal. Of the twenty-six states in which AH is legal, it is commercially functioning in at least[112] twelve states. At present, AH is legal *and* AH machines are situated in Alabama, California, Colorado, Illinois, Maine, Minnesota, Missouri, Nevada, North Carolina, Oklahoma, Oregon, and Washington. Additionally, it appears that AH is offered in Connecticut, Kansas, Utah, and Vermont via partnerships with out-of-state funeral homes, despite AH being legal in these states. There are, moreover, some providers of AH in states where AH is not legal. These service providers offer the arrangement of the transportation of the body to a facility in a neighbouring state in which AH is legal and

[110] See: https://www.nolo.com/legal-encyclopedia/alkaline-hydrolysis-laws-your-state.html [last accessed 8 February 2023].
[111] Initial analysis was conducted in March 2022 and updated in February 2023. All information correct as of 8 February 2023.
[112] I say 'at least' because the offering of AH in the USA is an incredibly dynamic and continually changing context.

functioning. For example, both Edwards Funeral Service (Ohio) and Green Cremation Texas (Texas) offer AH through Hughes Funeral Alternatives in Missouri. Interestingly, there is not a direct correlation between the states with the highest cremation rate and the states where AH is legal. Eight states in which AH is legal had a cremation rate below 50 percent in 2019.[113] Alabama is particularly noteworthy with a cremation rate of 32.6 percent in 2019, but two AH facilities functioning in the state. Similarly, Tennessee, Utah, and West Virginia all had a cremation rate of *just* over 40 percent in 2019 (CANA 2021). Hence, regarding the split of states where AH is legal and where it is not, it is apparent that a state's cremation rate does not necessarily influence AH's ability to become legalised. Furthermore, it is noteworthy that in political terms, the split of states as defined by AH's legal status is not representative of how one might expect AH to fall with regards to conservative versus liberal lines. Findings from the field suggest that while AH is not a *political* issue, the main hurdle for AH in the USA has been opposition from the Catholic Church, with legislation blocked by the Church in numerous states (see Chapter 3).

## A BRIEF HISTORY OF ALKALINE HYDROLYSIS IN THE USA

Before delving into the fieldwork findings, a brief history of alkaline hydrolysis in the USA lays necessary context. As discussed in Chapter 1, AH was first developed and patented in the 1880s by British analytical chemist Amos Herbert Hobson for the use of extracting beneficial by-products from animal carcasses. The process was further developed at Albany Medical College, USA, by Dr Gordon I. Kaye and Dr Peter B. Weber in the 1990s for the purpose of disposing animal carcasses. Kaye and Weber established the company $WR^2$ (meaning Waste Reduction by Waste Reduction) in the 1990s and went on to develop the first AH system for human corpse disposal. Joe Wilson, founder of Bio-Response Solutions, and Sandy Sullivan, founder of Resomation Limited, both worked for $WR^2$ during the company's existence. $WR^2$ sold an AH system to Shands Hospital, University of Florida, in 1995 – this was the first functioning human AH system, but it was not a single-body system and so was not a 'funerary' style unit. According to Wilson (2012), $WR^2$ built a prototype for a single-body AH system in 1998. The AH system for Mayo Clinic's Anatomical Bequest Program was developed by $WR^2$ in 2005 and installed in 2006 (Wilson 2022; Fisher 2022a; Sullivan 2022). The Mayo Clinic AH system was designed in a way which was deemed as 'fitting' and 'acceptable' for use within the funeral industry: namely, to process one body at a time.

### *MAYO CLINIC*

With the world's first 'funerary' style AH system installed at Mayo Clinic, the use and experience of AH at Mayo Clinic is foundational to the contemporary use of AH in funerary settings, both in the USA and around the world. As part of the Anatomical Bequest Program at Mayo Clinic, final disposition is provided free of charge for full body donors. It is also possible to request to make private arrangements for final disposition, such as burial, following the conclusion of Mayo Clinic's use of the donor body. Prior to the installation of the AH system at Mayo Clinic, the Program had been using local funeral homes and crematories to provide final disposition for body donors via cremation. The ashes would be returned to Mayo Clinic, and then either personally returned to kin or placed in the Mayo Clinic vault at Oakwood Cemetery. Burial at Oakwood Cemetery was previously used as the method of final disposition at Mayo Clinic, before the offered service became cremation. In the early 2000s,

[113] Alabama (32.6 percent), Georgia (47.2 percent), Maryland (47.6 percent), North Carolina (49.5 percent), Tennessee (40.5 percent), Utah (40.2 percent), Virginia (45.2 percent), and West Virginia (40.9 percent) (CANA 2021).

Mayo Clinic's Anatomical Bequest Program was growing, and the decision was taken at Mayo Clinic that the Program wanted 'increased onsite control of our donation pipeline, from the moment someone comes into our care until they're returned to their family' (Coons 2022). Suggestions were made to install a crematory onsite at the Mayo Clinic complex, but concerns were raised regarding the appropriateness of doing this because Mayo Clinic is situated downtown in the city of Rochester. Consequently, 'whatever method was chosen needed to be discreet and low impact on the surrounding environment' (Coons 2022). As Fisher noted, 'on a major college campus, the last thing you want is a smokestack that's spewing out' (Fisher 2022a). In a similar vein, Ballard commented on the severe difficulties Ballard-Sunder faced when attempting to install their cremator at their site in Jordan, and Bradshaw noted that neighbouring proposals in the Twin Cities for crematories were being objected due to concerns regarding air emissions (Ballard 2022; Bradshaw 2022). Accordingly, Regnier cited the difficulty in getting planning permission for a crematory as a reason for adopting AH at Mayo Clinic; he noted, 'I was surprised it [AH] wasn't adopted quicker by smaller operations that were in metro areas […] I mean, to put a retort in a downtown area, you really can't' (Regnier 2022). Dean Fisher and Terry Regnier, previously of Mayo Clinic's Anatomical Bequest Program, were introduced to AH technology via its use at Shands Hospital, University of Florida, where AH was used for their Anatomical Gifts Program. Fisher and Regnier reported that while the setup of the process in Florida did not appeal for its desired purposes at Mayo Clinic, the residual white bone and subsequent cremulated remains 'caught our eye' (Fisher 2022a): 'the final product was what you would want […] looking at this white, fluffy, […] angelic looking product versus that [pulverised cremated remains]' (Regnier 2022). After seeing the AH system installed in Florida, Fisher contacted $WR^2$ to establish whether they could manufacture a machine appropriate for use at Mayo Clinic. Fisher explained that he asked for the following amendments: 'Can you take that clamshell container? Can you turn it this way [horizontal]? Can you add a tray this way, so that this way, it's done in a respectful manner, and that we can load it and then we can take it out [from the front]? And then we can process the ash and give it back to the families' (Fisher 2022a). See Figures 3 and 4 for the visual appearances of both AH systems. Mayo Clinic subsequently placed an order for an AH system from $WR^2$ – this was designed and manufactured in 2005 and commissioned at Mayo Clinic in 2006. The advancement of innovation for AH technology within the funeral industry is rooted in the experience of Mayo Clinic; all participants in my USA fieldwork alluded to this fact. I argue that there are two main reasons for this: Mayo's contribution to (i) legislation and public acceptance; and (ii) technical advancement of AH technology.

Figure 3. $WR^2$ AH system for Shands Hospital, University of Florida, FL, USA. Dr Peter B. Weber pictured. (Wilson 2012).


Figure 4. $WR^2$ AH system at Department of Anatomy, Mayo Clinic, Rochester, MN, USA. Dean Fisher and Randy Harris pictured. (Wilson 2012).

Before AH could be used at Mayo Clinic, its legal position in Minnesota had to be established. Fisher and Regnier, both funeral directors by trade, approached the Mortuary Science Unit of Minnesota's Department of Health in order to request that AH be added to the legislation as a method of disposition in the state of Minnesota. In requesting legislation, Fisher and Regnier sought for AH to be available for use in the funeral industry in addition to the medical science setting (Fisher 2022a, b; Regnier 2022). Fisher and Regnier could have requested that AH simply be added to the state's legislation concerning disposition via body donation, which may have been an easier route to take, but they nonetheless sought for it to be implemented as a formal method of disposition, accessible to all in Minnesota (Regnier 2022). As Fisher expressed, the pair 'wanted to open it [AH] up for everybody so that it […] can be done state-wide' (Fisher 2022b). Working with David Benke and Tim Koch, both previously of Minnesota's Mortuary Science Unit, legislation was drawn up and AH was successfully added to the Minnesota Statutes Chapter 149A in 2003. Koch explained that cremation had only been 'codified in legislation' in Minnesota in 1997, and so when establishing how to legalise AH at the request of Mayo Clinic, they found that the easiest way was to equate it to cremation due to the process similarities. Doing this legalised AH in Minnesota, but the Department of Health later felt that the law needed to be expanded to truly accommodate AH within the Statutes. Thus, in 2013, the Statutes concerning AH were revised to distinguish AH from cremation in the state's licensing requirements for funerary activities (Koch 2022). Koch noted that 'a lot of states look to Minnesota because we were the first to allow it [AH] […] for what they should do' (Koch 2022). Mayo Clinic's request was successful and the legalisation of AH in Minnesota was directly prompted by Mayo Clinic's desire to use the process for their Program. Speculatively, it is plausible to assume added weight to the cause of legalising AH *because* Mayo Clinic was requesting it, rather than a funeral home. Koch commented on this influence and hence it is significant to emphasise that with the request coming from such an internationally reputable institution, the Mortuary Science Unit of Minnesota's Department of Health felt that they had to act, as Koch expressed:

> 'When the Mayo Foundation comes knocking at your door, you listen. […] their reputation is known worldwide, so we, as a Health Department, we weren't really nervous about what they wanted to do. We trusted them, but we had to do some research on it.'
>
> (Koch 2022)

With the legal position of AH established, Mayo Clinic installed their $WR^2$ AH system in 2005 and began using it in 2006. However, shortly after its installation, Fisher and Regnier reported that the Mayo Clinic AH system had stopped working properly. Accordingly, Fisher and Regnier tried to seek the technical advice of $WR^2$ to fix the system, but after a number of attempts, it transpired that $WR^2$ had ran into financial difficulties and the company had collapsed, and so $WR^2$ were unavailable to assist. Left without either engineering or technical assistance, Fisher and Regnier consequently had to attempt to work out how to correct the AH cycles themselves, so that the AH cycles would produce appropriate outputs. Resultantly, Regnier recalled that 'the first cycles were really scary' because the machine was malfunctioning (Regnier 2022). As the pair expressed in a joint interview:

> Regnier described that the attempts to resolve the issues with the machine caused a 'lot of stress', with Fisher adding that the severity of the problems got 'to the point where we stopped [using AH]. We were ready to go back to the funeral homes.' Regnier recounted, 'We were just, just perplexed' and Fisher explained that he and Regnier simply 'couldn't figure it out', despite their efforts to fix the system.
>
> (Regnier 2022; Fisher 2022b)

Consequently, Mayo Clinic returned to the use of their local funeral homes and crematories for six months because their new AH machine was not working as desired and was effectively defunct. During this time, Fisher recalls receiving a call from an international number, unbeknown that it was Sandy Sullivan. After a number of unsuccessful attempts to get through because Fisher had hung up the phone when it showed an international number, Sullivan eventually got through to Fisher and anecdotally said: 'Don't hang up […] my name is Sandy Sullivan […] I have an engineer. I want access to that unit you have in the basement there [at Mayo Clinic]. I can make that work.' (Fisher 2022a). That he did, and despite their struggles, Fisher and Regnier were eventually able to perfect their cycles in the $WR^2$ AH system. Fisher reminisces that Sullivan's three words, 'don't hang up', *'saved'* alkaline hydrolysis because without Sullivan's assistance, Mayo Clinic would not have continued using AH (Fisher 2022a). Working together, Fisher and Regnier worked out the required cycles (timings, chemical addition, temperature, etc) and Sullivan 'tweaked' the system so that the 'perfected' cycles were automated. 'After that', Regnier recalled, 'that machine was really kind of bulletproof' (Regnier 2022). Sullivan (2022) explained that the learning at Mayo Clinic was pivotal for the successful development of the Resomator by Resomation Limited, founded in 2007. Mayo Clinic later installed a Resomator to replace their AH system in September 2018 (Richardson 2022); this was Resomation Limited's fourth installation in the USA. Hence, the early research and development of AH at Mayo Clinic was central to the future of AH's use for human corpse disposal. Bio-Response Solutions, founded in 2006, was also working on AH technology at the time of Sullivan's assistance to Mayo Clinic, however, Bio-Response's engineers were developing low temperature AH systems for the agricultural industry. Thus, while it is not possible to say categorically that AH would not have successfully made it into the funeral market without the work undertaken at Mayo Clinic, what is certain is that AH's prospects were not appealing as investment worthy, even in the case of research and development, when the Mayo Clinic had a newly purchased $400,000 machine sat defective and out of commission.

For AH to be successfully implemented at Mayo Clinic, not only did the AH technology have to be perfected, but the prospective and registered donors had to be educated on the AH process. Although the primary focus of the Anatomical Bequest Program at Mayo Clinic is the act of altruistic body donation to scientific research, final disposition of the body is a key component of this donation. In discussing options for final disposal, Regnier commented that 'we certainly wouldn't want to do anything different and that they [donors] won't be appreciative of' (Regnier 2022). Interestingly, AH is fundamentally 'different' in that it had never been used in the funeral setting at the time of Mayo Clinic's introduction of the process. Nonetheless, the similarities of the cremation and AH processes in end product made AH familiar in that 'ash' would be returned to kin. Hence, education was necessary, since AH could not simply be described as merely 'cremation', because this was not cremation in the way cremation had been commonly understood as a flame-based process. Mayo Clinic, in taking the plunge to invest in AH, had to consult the registered donors who had already agreed to donate their body to medical research at Mayo Clinic before the AH system was installed, and therefore were under the impression that cremation would be used as the final means of disposition. Regnier recalls personally calling some 138 individuals or their kin to discuss the prospect of AH. Regnier explained: 'I wanted to talk to them, and I wanted them to be comfortable. And then when I went into that I was expecting 90 percent to say no, go with traditional cremation' (Regnier 2022). Despite this expectation, only two families declined the use of AH at this initial stage, which is extremely telling of the apparent acceptability of the AH process. Education continues at Mayo Clinic, however, for new donors, AH is presented as the method of disposition used, which one can opt out from to make private

arrangements;[114] comparatively, in the early stages, AH was being presented as the replacement method to what had been initially presented to prospective donors when agreeing to participate in the act of body donation. Jason Bradshaw cited the 'success' of the introduction of AH at Mayo Clinic as one of the reasons that he began market research to invest in the technology at Bradshaw Funeral Services (Bradshaw 2022). Bradshaw explained that although the model of Mayo Clinic functions differently to that of Bradshaw Funeral Services, 'people were still making a choice' at Mayo Clinic and Regnier had fed back to Bradshaw that people 'love[d] it', with 'nearly everyone […] selecting alkaline hydrolysis' (Bradshaw 2022). Hence, the successful implementation of AH at Mayo Clinic gave early adopters of AH technology the confidence that introducing this innovation would be a positive act for their businesses.

### *EARLY AH INSTALLATIONS*

The first commercial AH systems engineered for human corpse disposal were installed in the USA in 2011 in Florida and Ohio, manufactured by Resomation Limited and Bio-Response Solutions respectively. The first commercial system in Minnesota was installed in 2012 at Bradshaw Funeral Services, though, Bradshaw had been working long before this time to get a system installed (Bradshaw 2022; Koch 2022). Although Sullivan had worked on the $WR^2$ machine at Mayo Clinic and had significant input in the perfection of the $WR^2$ AH system, the first AH system engineered by Resomation Limited was installed in October 2011 at Anderson McQueen Funeral Home in Florida, followed by UCLA in California in April 2012, and Bradshaw Funeral Services in Minnesota in May 2012 (Richardson 2022). The first human system engineered by Bio-Response Solutions was installed at Edwards Funeral Service in Ohio in January 2011.

It is notable that despite the groundwork conducted at Mayo Clinic, subsequent early adopter AH installations did not have a smooth journey in seeking permissions for AH. For instance, Edwards Funeral Service's installation succumbed to legal uncertainty in the state. At the time of installation, the legal position of AH had not been clarified in Ohio, and so the system was consequently decommissioned a couple of months after its installation in March 2011 (Whiteman 2011). Significantly, this is yet to be resolved, with AH remaining absent from the Ohio legal statutes to the present date. Comparatively, in the case of Anderson McQueen Funeral Home, although the legal position of AH was certain in Florida, Sullivan reported that the water authorities initially enforced stringent restrictions on the release of the effluent, meaning that the number of cycles that could be performed was limited and rigorous testing was required for twelve months before restrictions were lifted (Sullivan 2022). Moreover, Fisher's account of the UCLA Donated Body Program installation demonstrated the number of organisations and intricacies that can be involved in seeking to install an AH system. As with the case of Mayo Clinic, a primary 'selling point' of the installation of an AH system for the Program was mitigating risk through the ability to keep donors in house from the start to the finish of their journey in the Program: UCLA wanted full 'control from the time the body came to us all the way through the final disposition until the ashes' (Fisher 2022a). However, despite the positive attributions warranting the installation of a Resomator at UCLA, Fisher spent two years jumping through hoops at UCLA to get a Resomator installed, including ensuring that the machine was 'earthquake proof' before approval for the installation was granted; the Resomator was commissioned in April 2012 (Fisher 2022a).

[114] See: https://www.mayoclinic.org/body-donation/biocremation-resomation.

Perhaps the most noteworthy example of the obstacles faced when attempting to install an AH system in this early adopter phase is the case of Bradshaw Funeral Services. In the early 2010s, Bradshaw had hoped to install a Resomator at their White Bear Township location but was faced with immense opposition, despite AH being legal in Minnesota and functioning at Mayo Clinic, MN. Succinctly summarised, on approaching the Metropolitan Council for a permit for AH, Bradshaw was denied the necessary permissions. Bradshaw explained: 'we had gone in, we had not done any education of the neighbours, we had not done any education of the City Council. We did not have our water permit yet. And it didn't go well. And the City said no.' (Bradshaw 2022). The responses reported by Bradshaw from the Metropolitan Council echo the response from the UK Water Authority Severn Trent and associated media reports concerning Rowley Regis Crematorium's Trade Effluent application for AH in 2017. Bradshaw recalled the following examples of responses he received from the Council: 'I don't want this sewer backing up into my basement … and there's grandma'; 'this is totally experimental'; 'there were references to that movie, Soylent Green'; 'it was pushed back to the unknown' (Bradshaw 2022). As previously noted, it is understandable that issues relating to death and the disposal of the dead body spur anxiety due to the sensitive nature of the topic. However, with appropriate education, such anxieties can be eased. The lack of industry and public education on the AH process evidently blocked early attempts to install AH systems.

Following the denial of the desired permit application for AH in the White Bear Township, Bradshaw took a decisive approach and attempted to gain permission to install a Resomator at their Stillwater location instead. Bradshaw reflected: 'what I took away from that [denial] is, is that when we approached it, for putting in here [Stillwater], we would be much more proactive in how we went about introducing this' (Bradshaw 2022). In preparing to request permission for AH at the Stillwater site, Bradshaw conducted focus groups, invited neighbours to their site to educate on the AH process and show their plans, and actively educated the Metropolitan Council, local municipalities, and religious authorities. Consolidating support was not the only hurdle, however, as Bradshaw emphasised that they spent a year doing research with the water municipality before they were granted with a permit to discharge wastewater from the AH process. Bradshaw explained that in attempting to obtain their permit, 'we visited with twelve different municipalities […] all the way from the Minnesota Pollution Control to the Nuclear Regulatory Commission' (Bradshaw 2022). This was despite Mayo Clinic running an AH system in the same state as Bradshaw Funeral Services, some 90 miles away, for five years prior to Bradshaw's application. Then, even upon the granting of a wastewater discharge permit, the wastewater workers still had to be convinced of what they would be receiving and working alongside. They had reportedly told Bradshaw: 'You're not going to put that in Stillwater, my workers have already heard about this, and they refuse to work in the sewers where there's going to be toes and fingers […] floating past' (Bradshaw 2022). In attempting to resolve these apprehensions, Bradshaw reportedly showed the wastewater workers a picture of the effluent from the AH process, to which they responded that there was no issue with what Bradshaw was asking the workers to be exposed to. Bradshaw explains that he feels that 'people ran to kind of the worst-case scenario in their mind, because they knew nothing else' (Bradshaw 2022). Nonetheless, with that resolved, the water permit was obtained. Again, this reiterates the importance of education in appeasing gatekeepers with the power to dictate the fate of such innovations.

The next step for Bradshaw was to obtain permitting from the Twin Cities Metropolitan Council to install a Resomator at the Stillwater site. Bradshaw was given two options: either, (i) the Council could allow for the Resomator installation within Bradshaw's existing special use permit for performing funerary practices on site –

however, this came with the risk that the neighbours could object to the ruling that AH was assumed to be included as funerary practice at some future point; or, (ii) Bradshaw could participate in a public hearing to expand their special use permit to specifically include AH, which could not be objected to once adopted. Despite the 'easier' nature of the former option, Bradshaw chose the public hearing route. Before the hearing, Bradshaw set out to educate the public and appropriate authorities, and as a result of his efforts, there were no objections to the expansion of Bradshaw's special use permit to include AH for their Stillwater location. Consequently, Bradshaw installed a Resomator in Spring 2012 and within two months of offering AH, 50 percent of those who had chosen Bradshaw's for their cremation services had chosen AH instead of cremation (Bradshaw 2022). The reasoning for such successful adoption is explored later in this chapter. However, it is important to note that Bradshaw put significant planning and investment into their 'Green Cremation' facility and Bradshaw believes that their investment made a 'big difference in the quick uptake of it [AH]' (Bradshaw 2022). Bradshaw Funeral Services invested nearly a million dollars into the purchase of the Resomator and the development of the Lower Chapel area where the Resomator is situated. Before witnessing the start of a Resomation cycle during my site visit, I waited in the 'Green Cremation Space' in the Lower Chapel of the Stillwater site, which is used as a viewing area for those wishing to say final 'goodbyes' and witness the AH process. The Resomator sits behind a glass window, which can be made visible by the opening of discreet blinds (see Figures 5 and 6); this enables all preparations to be done with privacy, and then the blinds can be opened just before the body is placed inside the Resomator to enable kin to witness the initiation of the AH process. Moreover, the Lower Chapel area is softly lit, and a water feature gently trickles to the right of the Resomator. During my time on site, I reflected on the layout of the Lower Chapel area and felt that the space was particularly well thought out in a way that would enhance the experience of the bereaved. The space was quiet, calming, and felt quite elegant. As already noted, the careful planning of the space was a conscious decision made by the team at Bradshaw's, as Bradshaw explained:

> 'We spent a lot of money putting this in […] and it was a total gamble […] [but] now we're in so we'd better make this right […] we wanted to make that investment so that people […] understood, they understood also that we're committed to this process, and we're serious about it. And I think that made a very big difference in the quick uptake of it.'
>
> (Bradshaw 2022)

The work undertaken by Jason Bradshaw cannot be overstated. On receiving wastewater approval after twelve months of effort, Bradshaw asked the wastewater municipality: 'so the next person that comes in and wants to do this, how long is it going to take?', and they replied, 'about two weeks' (Bradshaw 2022). Koch, now of Metro First Call, commented on the efforts of Bradshaw; referring to the consolidation of public opinion, he said: 'I didn't have to do a whole lot of that because Jason [Bradshaw] did it. He kind of did it for all of us. He did the hard work.' (Koch 2022). Moreover, Koch further explained:

> 'As far as permitting, I mean, the groundwork was, I go back to Jason [Bradshaw] again – he did the dirty work for, all of the hard work, for all of us. And now that the Met Council is okay with it [AH]. Anyone who wants to do it in the Twin City market, they still have to go through the hoops. I won't say it's easy with Met Council. But at least they're not saying well, 'we have to research this', they've already researched it. They know they're okay with it.'
>
> (Koch 2022)

In addition to demonstrating the challenges that must be overcome in order to install an AH machine in the USA, the case of Bradshaw Funeral Services emphasises the importance of education for the successful adoption of AH. The White Bear and Stillwater installations were proposed by the same funeral company, to serve the same surrounding areas, within some 20 miles of one another, yet one proposal was accepted and the other was rejected. As previously noted, substantial progress has been made with the innovation of AH in the USA as AH is now legal in twenty-six states in the USA and counting. Nonetheless, there is clearly some distance to go until AH is approved and commercially offered in all fifty states.

Figure 5. The Resomator situated in the Lower Chapel 'Green Cremation Space', Bradshaw Celebration of Life Center, Stillwater, MN, USA. Image courtesy of Bradshaw Funeral Services.

Figure 6. Lower Chapel 'Green Cremation Space', Bradshaw Celebration of Life Center, Stillwater, MN, USA. The Resomator is situated behind the glass to the left side of this image. Image courtesy of Bradshaw Funeral Services.

Table 1. Legal Status of Alkaline Hydrolysis in the United States of America, produced by author.[115]

| AH Legal | No Legal Statute |
|---|---|
| Alabama | Alaska |
| Arizona | Arkansas |
| California | Delaware |
| Colorado | Indiana |
| Connecticut | Iowa |
| Florida | Kentucky |
| Georgia | Louisiana |
| Hawaii | Massachusetts |
| Idaho | Michigan |
| Illinois | Mississippi |
| Kansas | Montana |
| Maine | Nebraska |
| Maryland | New Hampshire |
| Minnesota | New Jersey |
| Missouri | New Mexico |
| Nevada | New York |
| North Carolina | North Dakota |
| Oklahoma | Ohio |
| Oregon | Pennsylvania |
| Tennessee | Rhode Island |
| Utah | South Carolina |
| Vermont | South Dakota |
| Virginia | Texas |
| Washington | Wisconsin |
| West Virginia | |
| Wyoming | |

[115] Information correct as of 8 February 2023.

## OFFERING ALKALINE HYDROLYSIS: A CASE STUDY OF MINNESOTA, USA

With a brief history of the introduction of AH in the USA explored, attention is now drawn to the commercial offering of AH. This section uses insights from fieldwork conducted in Minnesota, USA, at two funeral homes, one funeral service industry provider (B-B provision of services, conducted on behalf of other funeral homes), and one medical setting. It explores how AH is being presented in the funerary setting in the USA, discusses the types of questions asked by 'consumers' when planning for a funeral that may involve AH, and outlines why people are ultimately choosing AH in the settings considered. The locations discussed are: Bradshaw Celebration of Life Center, Stillwater, MN, USA;[116] Ballard-Sunder Funeral & Cremation Reflections Crematory, Jordan, MN, USA;[117] Metro First Call, Savage, MN, USA;[118] and Mayo Clinic, Rochester, MN, USA. Insights in this section are also drawn from interviews with two executives of AH technology providers: Nicki Mikolai, Sales Manager of Resomation America LLC; and Samantha Sieber, VP Research of Bio-Response Solutions Inc.

### *'WHAT SHOULD WE CALL THIS THING?'*

Throughout the fieldwork conducted, there was consistency in how AH is presented in the funerary setting. As public-facing funeral homes, both Bradshaw Funeral Services and Ballard-Sunder Funeral & Cremation reported that they offer two 'types' of cremation, and so AH falls within their offering of cremation. Thus, when presenting funerary options to individuals, both locations explained that they offer the options of burial and cremation, and within the offering of cremation, describe that they offer the options of cremation by flame or cremation by water to choose between. For example, Mark Ballard, Owner of Ballard-Sunder Funeral & Cremation,[119] explained that at Ballard-Sunder, they 'consider alkaline hydrolysis as another form of cremation' (Ballard 2022). Jaylene Telford, Funeral Director at Ballard-Sunder, described that she presents AH by explaining to clients that: 'we offer two versions of cremation: flame cremation that most people are […] familiar with; and then water cremation, also called alkaline hydrolysis. And I just always ask them, would you like to learn more about the water cremation? And people always say yes.' (Telford 2022).

As previously noted, Bradshaw Funeral Services was the first commercial provider of AH in Minnesota, first offering the process in Spring 2012. In this regard, Bradshaw Funeral Services were pioneering in their work to offer this new, innovative process to families. Although Mayo Clinic had been using AH since 2006 in Minnesota, Bradshaw importantly highlighted that Mayo Clinic functions with a 'different model' to that of a funeral home (Bradshaw 2022). Hence, ultimately, although the final method of disposition is important in the body donation setting, it is the act of donation which tends to hold the most significance to donors, rather than how their body will ultimately be disposed of. Thus, while Bradshaw could seek advice from Regnier at Mayo Clinic as the first location in the world to offer 'funerary' style AH, Bradshaw acknowledged that he would be presenting AH as a true funerary option to the public for the first time in Minnesota, and for one of the first times in the world, with only Anderson McQueen Funeral Home in Florida and Edwards Funeral Service in Ohio closely preceding Bradshaw Funeral Services as commercial offerings of AH. Tasked with commercially offering AH for the first

[116] See: https://bradshawfuneral.com/; and https://www.greencremation.com/.
[117] See: https://www.ballardsunderfuneral.com/.
[118] See: https://www.metrofirstcall.com/.
[119] Ballard-Sunder Funeral & Cremation began offering AH in November 2020, following the commission of their Resomator in September 2020 (Ballard 2022; Richardson 2022).

time in Minnesota, Bradshaw worked to establish how he would market AH. As Bradshaw explained, 'back when we introduced it, there were no other words' and so it was a case of 'call it better alkaline hydrolysis […] I said, 'What should we call this thing?', I'm not going to call it alkaline hydrolysis, because that's not going to connect' (Bradshaw 2022). Bradshaw came to the term 'green cremation' through the process of establishing a word that people already understand – cremation – and then defining the first group that he planned to market the process to – 'the greens' – thereby creating the term 'green cremation': 'green and gentle, the natural choice' is Bradshaw's tagline (Bradshaw 2022). Bradshaw explained that in coming to this term, 'I think it allowed us in the very beginning to have a much easier connection with families and just say it's just another version of cremation, you know, as opposed to something new' (Bradshaw 2022). Hence, in attempting to facilitate some meaningful understanding of what the process involved, Bradshaw equated the AH process with the familiar process of cremation. The presentation of AH by Bradshaw was evidently evocative as within two months of offering AH, Bradshaw reported that half of those choosing cremation at Bradshaw chose AH instead. Bradshaw recalled the positive response to their offering of AH, explaining that while 'this is something brand new, that has never been offered to the public before […] within two months […] half of our cremation families were choosing it' (Bradshaw 2022). The assimilation of AH with cremation has been widely adopted in the USA funerary context. As Fisher, previously of Mayo Clinic and UCLA, commented, 'we just called it water cremation […] instead of calling it alkaline hydrolysis to confuse them or whatever. Everybody understands cremation already. So, if you call it water versus flame, and that's how we compare it. […] you just keep it simple because [then] everybody understands.' (Fisher 2022a). Telford, of Ballard-Sunder, likewise emphasised the benefit of likening AH with something that is familiar, as she explained:

> 'You don't want to be too technical. But you also don't want to be too vague. So, we tell people, it's 95 percent water, 5 percent potassium, which is an element that's found in the soil. That's what breaks your body down over, you know, the course of 60 years, if you were buried, that sort of thing. We don't really get into, you know, what temperature it's at, or the fact that there's any sort of pressure.[120] We just kind of keep it to the 95 percent and the 5 percent. And tell them that your loved one is going to be enshrouded, they're placed […] in and they're essentially bathed.'
>
> (Telford 2022)

The level of detail and words used are evidently important considerations as Fisher and Regnier recalled that one family opted out from AH at Mayo Clinic when it was first introduced due to the use of chemicals in the process:

> 'And one of them was a young, young girl. And I thought that was gonna be an easy one. But he was such an environmentalist, he wouldn't even use chemicals on his yard. So, when I said 'chemical', I don't think she ever heard another word I said. And she said no. I thought, well, okay, if you're environmental, this might be something you want to think about a little bit longer, but she heard chemical, and that's all she wanted to hear.'
>
> (Regnier 2022)

[120] It is important to stress that the service providers I visited and interviewed for this fieldwork are absolutely transparent in providing information on the AH process and will go into detail about the temperature of the water, pressure in the vessel, draining processes, etc, where appropriate. Telford's description of presenting AH in this way represents how the AH process would be *first* introduced to a client. See the section entitled 'What Do People Ask?' for more detail about this.

Of course, this is one isolated case, but it nonetheless elucidates the importance of worldview in influencing funerary choice. In this case, an ecological-ideological worldview, which one would assume would align with preference for AH, was a reason to disfavour the process. Fisher commented: 'That's why I say 'natural water cremation', because in the long run, what you're using is naturally in the ground anyway, versus, you know, like a chemical, a manmade chemical that, you're like a mad scientist or whatever.' (Fisher 2022a). In conversation, Fisher noted that the earth's crust contains 2.5 percent potassium and hence, he explained, AH is taking a naturally occurring process and doubling its components to speed up the natural decomposition process. Correspondingly, the latter half of Bradshaw's tagline, 'the natural choice', was carefully chosen to symbolise this trait of AH: namely, that the process of AH occurs naturally during burial, and so this is essentially a 'natural' process. This way of framing the AH process as 'natural', speeding up what the earth would naturally do, may be more likely to appeal to those ecologically minded, in a similar vein to the appeal of natural-woodland burial, as discussed subsequently. Bradshaw and Telford highlighted that the farming communities of Minnesota have been attracted to AH for this reason. As Telford explained, 'when you tell people that water cremation essentially mimics natural burial in the earth, […] the farmers […] they really like that, and they […] gravitate towards it then' (Telford 2022). At all locations, the notion of the 'gentle' and 'environmental' nature of AH was discussed as a key component of the presentation of the AH process and its adoption; the 'gentle' aspect is an important topic for discussion surrounding the question of why individuals choose AH, which is explored in due course.

### *WHAT DO PEOPLE ASK?*

During the fieldwork, I asked participants to explain the types of questions, if any, they are asked about AH when discussing the option with individuals. Aside from surprise regarding the speed of the adoption of the innovation by the public where it is offered – including Bradshaw's 50 percent uptake within two months – I was taken aback by the lack of questions asked by the public about AH. This is partly because in my experience of engagements with the British funeral industry, one of the industry's biggest anxieties regarding AH seems to stem from questions that it perceives the public will ask. Bradshaw alluded to a similar anxiety when they first began offering AH in Stillwater. As Bradshaw explained, 'Our funeral directors were all so worried. I mean, I put together little sheets of, you know, here's questions to answer. And, you know, if you're asked this or if you're asked that...' (Bradshaw 2022). Despite this anxiety, the experience of introducing AH taught Bradshaw that 'people ask a lot less questions about it than what we thought. […] Most families asked two questions.' (Bradshaw 2022). Bradshaw explained that the biggest and most frequent question funeral directors are faced with about AH is 'what do I get back in the end?', and when funeral directors respond that, 'You get back ashes. They're just whiter in colour and they're more fine', Bradshaw reported that this usually elicits the response, 'Oh, that sounds nice.' (Bradshaw 2022). This absence of questioning from the public was corroborated by Telford, as she explained:

> 'After this [explaining the AH process], people don't have a lot of questions about the process […] other than, 'how long does it take?' People always want to know, you know, 'is this going to have any impact on when we can have the funeral?' And it won't.'
>
> (Telford 2022)

Telford emphasised, however, that 'because it's [AH] unfamiliar to people, they don't know what to ask', so Ballard-Sunder distributes 'a comparison sheet between flame and water [cremation], and that helps people make

decisions. […] Since they don't know what to ask, we just try and give them all the information we can.' (Telford 2022). Bradshaw, Ballard, and Regnier commented that they have occasionally had individuals who have asked more intricate questions about the AH process, for example, about the alkaline specifically, but they explained that such instances are rare and usually come from individuals with a personal intrigue, for example, somebody with a personal-professional background in science (Bradshaw 2022; Ballard 2022; Regnier 2022). In discussing the questions that are asked when AH is presented to clients, Bradshaw commented that:

> 'It is interesting that putting in something new also creates people asking a lot more questions about the current choice. I mean, normally, we don't talk about how, you know, the bones are pulverised or processed after flame cremation. Well, when you're talking about alkaline hydrolysis, and then you're relating to how it compares to flame cremation. And people say, 'Well, I had no idea that happened'.'
>
> (Bradshaw 2022)

Both Mikolai and Sieber commented that their funeral industry clients perceive the presentation of AH to be similar to that of embalming in that individuals are not seeking out the details of the exact intricacies of the process, but they want the 'end' result, and hence it is important to keep the presentation of AH simple (Mikolai 2022; Sieber 2022). These findings confirmed a previous assumption of mine, namely, that the public will be far more accepting of funerary innovations than the funeral industry often perceives them to be.

### *WHY DO PEOPLE CHOOSE AH?*

Extensive insight can be gained by exploring the reasons why AH has been chosen at the locations visited in Minnesota. The following sections outline four key motivations driving the choice of AH in the USA context that were accounted for in the field. In the case of Bradshaw Funeral Services, Bradshaw reported that the motivations driving the choice of AH seem to be consistent with how AH has been marketed by Bradshaw – 'green and gentle, the natural choice'. Bradshaw noted two main influences in the feedback they receive about the choice of AH: 'one being more of a logical reason. And the other one being more of an emotional reason.' (Bradshaw 2022). The 'logical' reason relates to AH's environmental merits and the 'emotional' reason relates to AH's 'gentle' nature. Bradshaw explained this is why 'we've continued to use both of those words [green and gentle] in our marketing' (Bradshaw 2022). Bradshaw elaborated that in the case of pre-planning a funeral, a more 'pragmatic' reason for choosing AH tends to be cited, as he described: 'they will often at times cite, 'Well, it just seems like it's being more environmentally responsible.'' (Bradshaw 2022). Whereas, when the decision is more 'emotional', in that a death has occurred and then funeral plans are subsequently established, 'people will account on it being a more gentle choice. You know, [they will say,] 'I just liked the idea of that, as opposed to burning.'' (Bradshaw 2022). The notion of the AH process being 'gentler' than cremation seems to be an overarching narrative that has been adopted in the US context, which is further evidenced by findings in the field.

Bradshaw's report of the overarching reasons motivating the choice of AH are consistent with the experiences recounted at Ballard-Sunder. For example, in relation to environmental motivations, Ballard and Telford commented that for some, 'the environmental factor was really important' (Ballard 2022; Telford 2022). One way in which this motivation is explicated is rooted in the notion that the AH process mimics the 'natural' burial process. As previously noted, this notion has been described by participants as being particularly influential for the farming communities in Minnesota, prompting 'farmers [to] […] gravitate towards' AH (Telford 2022).

Bradshaw commented that he has been able to connect with the farming communities in a similar way to Ballard-Sunder by describing the process of AH as comparative with burying an animal and placing lime in the grave to aid decomposition, as farmers in the USA often do. As Bradshaw explained, 'I do frame this a lot as rapid decomposition […] when I say the natural choice. I mean, I think you could almost call this 'natural cremation'. Because, I mean, alkaline hydrolysis truly is.' (Bradshaw 2022). Moreover, partly in relation to the 'gentle' attributes ascribed to AH, the staff at Ballard-Sunder noted that for many, the use of water in the AH process is an appealing characteristic. This appeal can take two forms: (i) love of water, and/or (ii) water being perceived as gentler than fire. For instance, Ballard commented that some 'choose it [AH] because they will live on a lake and they just like the idea of the water' (Ballard 2022). DeRuiter, Funeral Director at Ballard-Sunder, had also experienced this response, remarking 'I think it's kind of the motivation of that return to water' that inspires some to choose AH (DeRuiter 2022). This motivating factor was cited as particularly significant in Minnesota specifically because, as Telford explained, 'We are in the land of ten thousand lakes, so people have a stern connection with water. That definitely motivates them.' (Telford 2022). Regarding the perception of the use of water in the AH process as being 'gentler' than the use of fire in cremation, Telford commented that this is 'a huge motivation' for many. She expanded on the reasons for this motivation by commenting that, 'One thing that we see a lot of, if somebody has died in a traumatic way, […] They pretty much always go with water cremation' (Telford 2022). Likewise, DeRuiter added that the 'gentler' aspect 'can ease some […] anxieties about this very permanent process' (DeRuiter 2022). Again, as with the environmental motivations, the attribution of the 'gentle' quality to the AH process by those choosing it was corroborated throughout the field. To further emphasise the commonality of this motivation, I provide a further example described by Tim Koch, Owner of Metro First Call, who recalled the experience of a family they had served, for whom the water aspect of AH was a strong motivating factor. He explained:

> '[The family] had wanted cremation, but the person who had died, when they were a little boy, they were burned in a fire. And they still had the scars from that and were deathly afraid of fire. [So, the family asked] 'What else can we do?' And the funeral home brought up water cremation and problem solved, they were so relieved that they had another option, but still could get cremated remains back.'
>
> (Koch 2022)

The perception of water, and therefore AH, as being 'gentler' than fire requires further analysis. This appeal suggests that the imagined state of the body after death is an important consideration. In Chapter 3, it was stressed that the imagined state of the body is significant for determining religious prescriptions of the treatment of the body after death, and therefore the method of body disposal. Clearly, such perceptions extend beyond religious motivations. Interpretations of the imagined state of the body can work both in favour and against AH, as with any disposal method. In the case of AH, for example, Ballard noted:

> 'Some people want it [AH] because of that [it being gentler]. We also have some people that just don't want it because of the water. They say […] they don't know how to swim or […] they're afraid of drowning, or you know, some people […] go that way with it too.'
>
> (Ballard 2022)

In favour of AH, the overarching narrative reported throughout the field is that accounts of AH as a 'gentler' process than flame cremation were common in all contexts. This was a consideration that surprised Sullivan, who established Resomation Limited partly based on the environmental merits of the AH process and the increasing demand for an environmental alternative to cremation (Sullivan 2022), which has been evidenced as another appeal of the AH process by those choosing it.

### *CULTURAL-RELIGIOUS INFLUENCES AND RITUAL OPPORTUNITIES*

Continuing with the discussion in the previous section regarding why people choose AH, this section comments on some cultural-religious factors influencing the choice of AH and discusses the ritual opportunities AH affords, beginning with examples drawn from the Hawaiian context. For example, the notion of a return to water has been indicated as a culturally influential idiom in Hawaii and is included in an advert produced by Aloha Mortuary, Hawaii, about their prospective offering of AH. Aloha Mortuary[121] is a Hawaiian funeral home, owned by Native Hawaiians, which is currently seeking investment to purchase a Resomator following their successful efforts to legalise AH in Hawaii in 2022. The short advert features Hawaiian actor Kekoa Kekumano, and is an insightful example demonstrating the appeal of the use of water in the AH process, as Kekumano says:

> 'I'm a Waterman, in real life, and on screen. I'm blown away by the beauty of the ocean. I love the idea that when our time on earth here is done, we can return to the waters from which life emerged. It's awesome that Aloha Mortuary is working to bring water cremation to Hawaii. Preserving our culture's traditions is important. And that's why I trust Aloha Mortuary. You get the kind of send off that honours my culture. Aloha Mortuary. A story to tell. A life to celebrate.'
>
> (Aloha Mortuary 2022a)

Fisher, through his role at Fisher & Associates,[122] recently aided Hawaii to legislate on AH; legislation was successfully passed in July 2022. Notably, the desire for AH in Hawaii is not only rooted in the appeal of a return to water, as cited by Kekumano, but significantly, part of the drive for AH in Hawaii was rooted in its ability to enable the reintroduction of traditional Native Hawaiian funerary rituals through the adaptation of traditional rituals. Aloha Mortuary (2022b) explains on its website that Native Hawaiian tradition teaches that the 'mana' – spiritual essence – is contained within the 'iwi' – bones. Accordingly, the bones are of central importance in Native Hawaiian funerary ritual. Traditionally, after death, the body would be placed in an underground oven – an 'imu' – near the sea to remove the flesh from the bones, and then the bones would be collected to be 'preserved, stored, and protected with reverence'. This traditional practice is not a legal possibility in contemporary Hawaii, but AH offers the possibility to mimic this process. Because the AH process reduces the corpse to bones, it enables the opportunity for the intact (un-pulverised) bones to be collected and then buried according to traditional Native Hawaiian funerary ritual practices. This proposed use of AH for Hawaiian funerary ritual is elusive of Hertz's exploration of the 'wet' and 'dry' phases of double burial (Hertz 1960; Davies 2000). Significantly, the opportunity for AH to facilitate adapted Native Hawaiian funerary rituals was cited as a reason for implementing the legislation in the Bill, alongside the process's environmental benefits, as Section 1 of the Bill (HB 1894) reads:

[121] See: https://www.alohamortuary.com/.
[122] See: https://www.whywatercremation.com/.

> ‘The legislature finds that there has been a recent increase of interest in traditional Native Hawaiian practices for burials amongst Native Hawaiians and non-Native Hawaiians. […] Traditional Native Hawaiian burials include the practices for treatment of human remains, which involve reducing remains to skeletal components and interring the iwi in a kapa or lauhala container. […] The legislature also finds that a process called water cremation, technically known as alkaline hydrolysis, provides a more eco-friendly, cleaner, and gentler alternative to flame cremation for the treatment of remains. […] The alternative water cremation process benefits both practitioners of traditional Native Hawaiian burial techniques and individuals who want an environmentally-friendly cremation option for themselves or their loved ones. […] Accordingly, the purpose of this Act is to accommodate the use of both traditional Native Hawaiian burial practices and environmentally-friendly burial practices by including water cremation in the treatment and disposal of human remains.’
>
> (Hawai’i State Legislature 2022, HB 1894)

Hence, the example of Hawaii illustrates personal, political, and cultural motivations influencing the choice of AH. Continuing the search for the reasons people choose AH, I asked participants about their engagement with religious communities. As explored in Chapter 3, religious authorities have mostly remained silent on the topic of AH. Largely because of this silence, and therefore the lack of data concerning religious opinions of AH, I hoped to establish the experiences of USA funeral homes in engaging with religious considerations relating to AH. As prior research had suggested, the most outspoken religious group on AH in the USA has been Roman Catholicism, as Bradshaw noted, ‘in new communities where they’ve tried to put this [AH] in, it’s been the Catholic faith that’s really pushed back on it the most’ (Bradshaw 2022). As discussed in the previous chapter, in response to the uncertainty of the Catholic position on AH, Sister Renée Mirkes published an influential Catholic moral analysis of the AH process in 2008, which was the first of its kind. Mirkes concluded that AH is ‘in and of itself, a morally neutral action’ (Mirkes 2008, p. 685). Mirkes’s paper is well informed and balanced. Notably, before the paper was published, having learned that Mirkes was researching AH, Regnier invited Mirkes to Mayo Clinic to educate her on the AH process and allowed her to witness an AH cycle. Regnier commented on his intentions in inviting Mirkes to Mayo Clinic, explaining that:

> ‘I reached out to Sister Mirkes through some connections, and she was kind of investigating it [AH]. And I said, well, please come [to Mayo Clinic]. I want to show you this. And she came up, […] and I don’t care what she wrote [whether it was positive or negative about AH]. At least it was an informed article.’
>
> (Regnier 2022)

The moral analysis of the AH process published by Mirkes was a significant development in the progress of the adoption of AH in the USA. Bradshaw explained that he ‘passes that [Mirkes] article along to every new priest that comes into the area’ and, in the case of Bradshaw Funeral Services, ‘most of them [priests] around here now […] have just accepted so it’s not even part of the discussion any longer’ (Bradshaw 2022). Comparatively, a Catholic priest local to Ballard-Sunder Funeral & Cremation, some 60 miles from Bradshaw’s Stillwater location, has spoken out against AH (Ballard 2022; Telford 2022). Nonetheless, personal communication with Fisher elicited that this hostility from Ballard-Sunder’s local Catholic priest has largely diminished in recent months; Fisher explained that Ballard-Sunder have recently been invited to give talks about AH in between services at the local Catholic Church in Jordan, which may have a positive influence on the opinion of local Catholics (Fisher

2023). Hence, as has been stressed throughout this thesis, the value of educating on AH cannot be overstated, particularly in the form of seeing the equipment run, as I had the privilege of experiencing in the field. As Fisher expressed, 'when they see it, they understand it' (Fisher 2022a).

The opportunities afforded by AH in the form of ritual practice, especially in an age of global climate crisis, should not be underestimated. Such ritual opportunities have the capacity to provide reasons for cultural-religious acceptance of AH. This has already been evidenced in the case of Hawaii and the facilitation of Native Hawaiian funerary ritual that is enabled by AH, discussed previously. The scope of the opportunities that AH may facilitate is vast, accommodating rituals associated with cultural, religious, and secular worldviews. For example, Koch noted that Metro First Call have been better able to facilitate the ritual process of bone picking for those within the local Buddhist community through AH. This is because, with cremation – which would normatively be chosen – Koch advised that there is only a 50 percent chance that it will be possible to retrieve the hyoid bone, whereas with AH, it is essentially guaranteed. Koch similarly recalled the example of some who have chosen AH because they wanted the teeth of the deceased to be returned, which AH practically facilitates, whereas there is no guarantee that the teeth will survive the cremation process. Moreover, Telford commented that the local Mdewakanton Sioux tribe, for example, have shown an interest in AH because it mimics natural burial and so AH can 'align with their beliefs really well', including their heavy emphasis on the importance of environmental stewardship (Telford 2022). Hence, the use of AH *facilitates* some cultural-religious ritual practices and can be highly symbolic.

Communication with Paul Burnham, Church of England Reader, revealed further possibilities for AH's alignment with Christian ritual-symbolism. Burnham believes that the AH process is consistent with Christian teachings and argues that the use of 'appropriate Christian symbolism would retain the integrity of the individual by avoiding pulverisation and scattering after water cremation and burying the remains in a container in consecrated ground' (Burnham 2019). In the British context, with diminishing land space for burial persisting as a contemporary issue, if AH is perceived as consistent with the decomposition of the body underground to skeletal remains and Christian associations with that process, AH could enable a new form of 'Christian' burial. Similarly, in accordance with Catholic teachings regarding cremation, AH could furthermore suffice theologically in that cremated remains are permitted to be interred within consecrated burial grounds. Interestingly, though perhaps not surprisingly given the opportunity for symbolic expression offered by AH, Bradshaw reported that a few pastors have commented to him that they perceive that the AH process resembles the sacrament of baptism, as he explained, 'Christians baptise with water, and with AH, you can be cremated with water' (Bradshaw 2022). Bradshaw commented that some would argue that AH is 'certainly not baptism' (Bradshaw 2022), nevertheless, it is important to note the significance of symbolism in ritual practice and the *potential* for added symbolic value. Hence, the significance of symbolism in funerary activity must not be understated and is particularly noteworthy because of the opportunity for the development of new or adapted rituals made possible via the AH process. Fisher also commented that he has invited priests to bless the water before the AH process begins and the Resomator itself: 'I said they were baptised into water when they began, and now bless the water that they're going to end their life in also'; 'It's a water process. Now it's a blessed water process.' (Fisher 2022a, b). As already discussed, the Church of England 'developed slight changes to burial rites to accommodate cremation' (Davies 2017); the same is likely to be true for the adoption of AH, with consistency in the committal 'earth to earth, ashes to ashes, dust to dust' documented in the 1662 *Book of Common Prayer*, and the possibility to incorporate symbolic references

to baptism liturgy. Hence, the ritual-symbolic possibilities for AH could be indicative of its future uptake, particularly its resonances with Christian symbolism relating to baptism. Moreover, the continuity in engagement with the elements – earth in burial, fire in cremation, and water in AH – may be of symbolic significance.

### *FOUR MOTIVATIONS*

Hence, the various 'appealing' characteristics of AH documented in this chapter demonstrate the different ways in which AH has been perceived in the minds of individuals. The four primary motivations influencing the choice of AH evidenced in the field were:

(i) The perception of AH as an 'environmental' choice.

(ii) The perception of AH as a 'gentle' choice.

(iii) The perception of AH as a choice for 'water lovers'.

(iv) The perception of AH as a 'natural' choice.

Even aside from 'consumer' outlooks, the attraction of Fisher and Regnier as practitioners to the pure white 'ash' resulting from the AH process is striking because this was a significant influence driving their interest to invest in the technology (Fisher 2022a; Regnier 2022). Moreover, as already noted, not only does AH enable consistency in the liturgical emphasis on 'ashes to ashes, dust to dust', but these accounts demonstrate that AH provides the opportunity for the development of new and revived ritual-symbolic practices. Findings in the field demonstrate the subjective nature of AH's appeal. This may prompt some to perceive AH as a 'difficult sell' in terms of not knowing who to market it to, however, it rather seems that with the correct marketing, AH can appeal to vastly differing worldview perspectives, and consequently, could be widely adopted. As Bradshaw expressed, key to the adoption of AH is 'all the little connections that you can make with different communities' (Bradshaw 2022). Bradshaw's tagline, 'green and gentle, the natural choice', certainly seems to encapsulate the overarching narrative depicted in the field. Perhaps the most significant finding for the British context is the openness of the USA population to AH in the area studied. When presented as a form of cremation, with soft descriptions, yet absolute transparency about the use of a chemical, AH has been rapidly adopted at Bradshaw Funeral Services and Ballard-Sunder Funeral & Cremation. It is important to note that Bradshaw and Ballard-Sunder actively offer AH to all, and the education via this offering clearly makes a difference in its uptake. This is evident in the case of Koch, who performs AH on behalf of other funeral homes as a B-B provider and thus has no input in the planning discussions. If the process is not explicitly offered during the funeral planning process, given the early stage that the innovation remains within, the vast majority of Americans will likely be unaware that AH is an option for them and thus are unlikely to actively seek it out. With Metro First Call being an 'offsite', outsourced, service for the funeral homes they serve, there is perhaps less incentive to offer the service than those services that can be offered onsite within the funeral home itself. Particularly in the cases of Bradshaw and Ballard-Sunder, it is in their interests that AH is widely adopted within their service provision as they have Resomators installed onsite. As with the case of Bradshaw, Ballard put significant investment into adapting their facility to install a Resomator, including by creating a viewing area similar to Bradshaw's whereby glass doors can reveal or hide the Resomator with discreet blinds (see Figure 7). Nonetheless, the cases of Bradshaw and Ballard-Sunder emphasise that actively offering the option of AH is key to the innovation's success. Koch corroborated this as he explained that when the funeral homes he serves *do* actively offer AH, their uptake significantly increases.

Hence, when offered AH, and therefore educated on the process, the American public have been very receptive to the innovation of AH in the cases discussed.


Figure 7. The Resomator situated at Ballard-Sunder Reflections Crematory, Jordan, MN. Blinds are situated behind the glass doors shown in the image. Image courtesy of Ballard-Sunder Funeral & Cremation.

Figure 8. Bio-Response AH system at Metro First Call, Savage, MN.
Image courtesy of Metro First Call.

## THE FUTURE OF ALKALINE HYDROLYSIS IN THE USA

This chapter sought to provide a brief history of the introduction of AH in the USA and share insights from the field regarding how AH can be successfully implemented and adopted by the public. As previously noted, there are currently twenty-six states in the USA in which AH is legal, albeit AH is not yet functioning in all of those states; moreover, there persist twenty-four states in which AH has not been legislated on. As such, while the innovation of AH is undoubtedly growing in the USA, it remains small enough that CANA does not publish statistics regarding the AH rate in the USA. Personal communication with Barbara Kemmis, CANA's Executive Director, established that CANA estimates that there are 'roughly 40 AH practitioners in the US and Canada compared to nearly 4,000 crematories' and the 'number if bodies hydrolyzed annually is likely less than a tenth of a percent' (Kemmis 2022). With this considered, then, what is the future for AH in the USA?

All fieldwork participants perceive that AH will continue to grow, both in terms of popularity and availability. However, the future 'status' of AH as an established method of body disposal in the USA was less certain. Participants were not wholly convinced in determining whether AH could ever overtake cremation as the normative form of disposition in the USA, with some seeing this shift as largely unlikely at present, but not impossible. As Mikolai expressed, 'Will it ever be as big as flame cremation? Who knows? In a perfect world it would be, because it's better for the environment.' (Mikolai 2022). Within this frame of thought, if contemporary environmental concerns continue to heighten and, subsequently, funerary choices become heavily dictated by the climate crisis, then perhaps AH will overtake cremation as the more dominant mode of body disposal in the USA. As Telford noted, 'baby boomers want personalised services, the children of baby boomers are […] more intrigued by environmentally friendly practices' (Telford 2022). This influence is likely to increase in significance when Millennials and Generation Z begin arranging funerals, as studies have shown that younger generations have more heightened concern for the environment (Smith 2019; YouGov 2020, 2022c).

CANA predicts that by 2031, the USA cremation rate will be 69.6 percent, with all fifty states predicted to have a cremation rate over 50 percent, and states including Maine, Minnesota, Nevada, and New Hampshire predicted to reach a cremation rate of nearly 90 percent (CANA 2022). As Koch expressed, 'that's a lot of flame cremation' (Koch 2022). This upward trajectory of cremation may have positive consequences for the uptake of AH in the USA. This is because AH is largely being presented as an environmental alternative to cremation in the US context – specifically as a *form* of cremation – and so it seems plausible to suggest that a significant share of the close to 70 percent cremation rate predicted for the USA in 2031 will take the form of AH. However, Koch and Telford noted that the capacity for volume with AH is not equal to that of cremation at present – both in terms of the number of crematories versus AH facilities in the USA and how many cycles can be run comparatively in a twenty-four-hour period. Thus, it may be *practically* difficult for AH to overtake cremation in terms of volume. Despite this, it is not impossible: there would simply need to be investment in the infrastructure for the provision of AH, and/or further development of AH technology. As Sullivan commented, in the future, it will likely be possible to shorten the AH cycle length, and Regnier believes that there are further possibilities afforded by the machine's capacity for automation beyond its current ability. Nevertheless, concerns regarding AH technology's ability to process volume, while important, are largely industry concerns regarding profitability, staffing, and investment. Evidence in the field suggested quite an optimistic projection for the future uptake of AH in the USA.

Given the success and rate of adoption of AH evidenced at Bradshaw Funeral Services and Ballard-Sunder Funeral & Cremation, it is clear why all participants believe that AH will continue to increase in popularity in the USA and beyond. Education seems key to this projection being actualised, as Koch expressed, 'if people just bring it up, it will become more popular' (Koch 2022). Furthermore, Koch argues that AH 'wouldn't go backwards because it's proven. And it's just catching on […] So, I only see growth' (Koch 2022). In a similar vein, Fisher predicts that 'it's going to take a couple more generations. But I would guess that by the time, you know, if I live another twenty years, I'm hoping to see at least 10 to 15 percent embrace this, and this will just blow up, you know. But I would guess that in, in forty or fifty years […] this will be a norm.' (Fisher 2022a). Hence, there was clear drive behind the innovation of AH evident in the USA, as exemplified by the case study of Minnesota. This is further underscored by the fact that the number of orders placed for AH units and enquiries made about AH are on the rise for both Bio-Response Solutions and Resomation Limited in the USA and around the world. As already stated, I perceive that when available, AH will become popular in the UK for those who presently choose cremation for non-religious reasons. This documentation of findings in the field has demonstrated how this may become articulated through the offering of AH as 'water' or 'green' cremation to clients. Participants saw the current progress of AH in the USA as just the beginning of an upward trajectory. The momentum for AH is clearly brewing, with the number of states in the USA that are adopting AH regularly increasing. This suggests that as the offering of the innovation becomes more widespread in terms of availability, AH will soon take a significant market share of USA funeral choices, likely to be seen over the course of the next decade.

Fieldwork was conducted in Minnesota, USA, and this choice warrants a final interesting element of reflection. Minnesota was chosen primarily because of the longevity of the practice of AH in the state and its early adopter status. As previously referenced in this chapter, Minnesota was the first state in the USA to legalise AH, Mayo Clinic was the first place in the world to use 'funerary' style AH, and Bradshaw Funeral Services was one of the first funeral providers in the world to offer AH. Hence, the fieldwork sought to gain insights regarding the experiences of early adopters of the innovation of AH and illustrate how and why AH has been adopted by some in the US context. Nonetheless, the fieldwork demonstrated that AH remains a relatively new funerary innovation that is yet to grip the attention of the population at large, both in the USA and Minnesota specifically. Of the three funeral homes I visited, two had only begun offering AH within the last few years: Metro First Call has offered AH since 2019 and Ballard-Sunder Funeral & Cremation since 2020. Thus, while 'longevity' of practice and 'early adopter' status fit seamlessly with the experience of Bradshaw Funeral Services, where AH has been offered since 2012, 'longevity' of practice did not apply to the other two funeral homes I visited. Nevertheless, the 'early adopter' status applied to all of the sites I visited because, at the time of the fieldwork, there were only five AH systems installed in Minnesota,[123] including the Mayo Clinic installation. The context of AH's progress in Minnesota created a very interesting element to the fieldwork findings because while Bradshaw spoke of his journey from a decade ago to the present day, the experiences of Ballard and Koch bore resemblances to Bradshaw's early days. While the early adopter status and longevity of the practice of AH were both evidenced in Minnesota and were particularly located in the experiences of both Bradshaw Funeral Services and Mayo Clinic, the 'newness' of AH in contemporary Minnesota stood out. While I would not go as far as to say that this

[123] I visited three of the four funeral home AH installations in Minnesota. Time restraints and locality of the fieldwork meant that I was unable to visit LaCanne Family Celebration of Life Center, Windom, MN. LaCanne installed their AH system in July 2015 (Wilson 2023).

'surprised' me, it was something that I only truly reflected on as I was conducting the fieldwork and during the analysis of the fieldwork data. Hence, the fieldwork provided deep insight into how an innovation, which largely remains in an early adopter phase, will gradually become adopted as a normative funerary practice throughout the USA and elsewhere in the very near future. Having framed how AH may become a normative practice based on the extensive fieldwork data and previous analysis in Chapters 1, 2 and 3, the following chapter takes this a step further and discusses how practices associated with funerary 'waste' – largely developed in accordance with environmental policy – may be embraced in the contemporary British context. The chapter provides significant context for how AH may be adopted in the UK by exploring whether Britons will be receptive to innovative practices which may be deemed as more 'extreme' than AH because they go beyond mere *body* disposal practices.

# V

# ARTIFICIAL HIPS AND POST-MORTEM GIFTS

As this thesis has stressed, akin with popular sensibilities, the environmental discourse now extends to funerary activities. As such, modern death care is undergoing a shift, a shift in focus which Rumble et al. suggest is moving from the aim of 'disposal' to 'dispersal'. Rumble et al. note that 'from an ecological perspective, rubbish is never entirely disposed of; rather it remains part of the planetary eco-system in one shape or form' (Rumble et al. 2014, p. 243) – the same principle applies to post-mortem body disposal. Yet, to speak of the deceased human body as 'rubbish' will not sit right in the minds of many. Despite this, it is an inescapable fact that funerary practices involve acts of 'waste' disposal – that 'waste', however, is the 'waste' of a being that is expected to be treated with dignity and respect. Accordingly, terms such as 'rubbish' or 'waste' are not typically used to describe the dead body and are largely deemed as inappropriate. Nevertheless, as Davies eloquently puts it, 'as the issue of waste disposal has come to be a pressing concern of ordinary life, it is not surprising that the disposal of the human body should also come to be seen as part of the same general problem – what to do with the outcome of living?' (Davies 2005a, p. 86). This not only applies to the physicality of the dead body, but moreover, the inorganic residues potentially residing within the body and the environmental impacts caused by various body disposal methods. With a growing number of funerary innovations emerging that are focused on providing environmentally sound end of life choices, Rumble et al. suggest that the British dead are increasingly 'becoming subject to a managed process of *dispersal* into environments inhabited by the living, in which – via ecological and altruistic rhetoric – the dead are positioned as a gift to the living and to the planet' (Rumble et al. 2014, p. 244). This issue is part of the wider popular concern regarding the sustainability of human life on the planet, within which it ought to be acknowledged that even in our death, we have a detrimental impact upon the planet. Accordingly, there now exist opportunities to reduce that detrimental impact and to 'give' something beneficial 'back' in one's own death, and/or generally reduce the environmental impact caused by contemporary funerary activities. Hence, arguably a shift in perspective is underway from a focus on 'any eternal future in heaven to a long-term future for humanity on earth' in which 'personal survival and immortality have become subsumed into the survival of the human species amidst other species' (Davies 2005a, p. 77). This now, and increasingly so, extends to funerary practices. As such, with funerary activities known to be a source of pollution and methods developed to reduce the extent of this pollution, this chapter highlights how productive 'dispersal' practices associated with funerary 'waste' – referred to as 'necro-waste' – are increasingly likely to occur. Building on the analysis presented in Chapters 2, 3 and 4, this chapter considers how receptive the British public will be to such practices as they become more widespread. Establishing the popular acceptability of 'necro-waste' dispersal practices provides vital context for understanding how AH and its associated practices will be adopted by Britons. With concern for the environment at an all-time high in the UK, as Chapter 2 showed, this chapter argues that with the provision of appropriate information, Britons are likely to be receptive to 'necro-waste' dispersal practices that reduce funerary pollution and facilitate charitable 'gift-giving'. The chapter defines 'necro-waste' and then comparatively assesses both new and existing practices associated with 'necro-waste' to show how the dispersal of 'necro-waste' is a relatively uncontroversial activity and is largely framed by the British funeral industry as an act of post-mortem 'gift-giving'.

## NECRO-WASTE

The concept of 'necro-waste' is derived from the Greek 'nekrós' (νεκρός) meaning 'dead'; one can therefore propose that 'necro-waste' is 'dead-waste' or waste from the dead. Troyer helpfully notes that the Ancient Greek 'concepts' of death remain 'today in two distinct forms: *nekrós* and *thanatos*'. Troyer explains that 'nekrós' is 'a form-of-death, as in the human corpse' and 'suggests the dead body in all forms' (Troyer 2020, p. 125). As noted in the introductory chapter, issues of cultural classification are vital to address in order to situate the discourse adopted in this thesis. Hence, at this juncture, it is important to emphasise that the term 'necro-waste' is not a term that would be used in the 'public' sphere, but it is a helpful categorisation tool to group together the variety of topics discussed within this chapter. A handful of scholars – most notably here, Olson (2016b) and Troyer (2016) – have written on the topic of necro-waste. Olson's and Troyer's insights are foundational to the analysis that follows. To prime the chapter, a summary of the issues surrounding the concept of necro-waste acts as a helpful entry point for the discussion that follows.

Needless to say, the death of a human being renders the body inanimate. Therefore, in frank terms, at death, the once living being becomes necro-waste; how this 'waste' is then treated and what treatment is deemed as 'acceptable' is subjective. Nonetheless, since time immemorial, dead bodies have been subjected to some form of treatment to facilitate their disposal, primarily because soon after death, the body will begin to decompose. Even in societies where sky burial is commonplace, for example, bodies are not simply left where the death occurred, rather, the body is removed from the place of death and funerary rituals are performed before the body is transported to be exposed to the elements. In the British context, necro-waste is largely 'disposed' of via the processes of burial or cremation. However, as subsequently discussed in this chapter, the process of cremation does not necessarily leave necro-waste fully disposed of because residues of inorganic materials remain following the cremation process. This is increasingly the case in an age whereby artificial medical implants are frequently used. This raises a potential ethical[124] issue concerning what 'waste' is classified as *belonging* to the body in which it was housed and so may be treated as 'part' of the body, and what is simply classified as 'waste' to be disposed of. For example, as Troyer suggests, while 'a whole, intact dead body' is not regarded as 'a singular mass of waste', the 'pieces that make up that dead body […] once disconnected […] become more explicitly necro-waste as their 'identity' is stripped away from the original owner' (Troyer 2016, p. 61). Moreover, Rumble notes that while orthopaedic implants 'originate' as 'part of the corpse', they are 'separated out from cremated remains' and consequently 'become surplus metallic waste' that is 'transformed into valuable economic resources, devoid of human identity and materiality' (Rumble 2019, p. 136). In this sense, Rumble argues that disposed 'remains' become dispersed 'residues' (Rumble 2019). Pivotal to the discussion in this chapter, then, is the question: what necro-waste holds value-laden significance pertaining to key cultural and religious-theological worldviews concerning the treatment of the dead, and what does not?

Arguably, a burial without embalming produces little necro-waste to be handled – once the body has been placed within the grave, the necro-waste (i.e., the body) has been disposed of. However, with practically all other funerary processes, necro-waste extends beyond the immediacy of the dead body. To exemplify how this is the case,

[124] Troyer extensively discusses issues relating to the ethics and politics that are involved in what he terms 'necroeconomies' in Chapter 5 of *Technologies of the Human Corpse*, 'The Global Trade in Death, Dying, and Human Body Parts' (Troyer 2020, pp. 95-121).

examples of the 'excess' necro-waste produced by the cremation and embalming processes are described in this section. Rumble's (2019) proposal to rethink disposal from 'finality' to 'process' provides an insightful lens to think through the treatment of necro-waste in the twenty-first century, particularly in the contemporary British context where 80 percent of funerals result in cremation and therefore the potential volume of necro-waste secondary to cremated remains is significant. With cremation, inorganic materials remain, and cremated remains are produced, both of which are necro-waste substances that require further action to be taken. Moreover, with embalming, bodily fluids are removed and disposed of as waste down the drain to municipal sewers. In his discussion of necro-waste, Olson (2016b) distinguishes between funeral industry 'products' and funeral industry 'waste' to expand the notion of necro-waste. Olson suggests that in the case of embalming, the drained bodily fluids become funerary 'waste', but the embalmed body is a funerary 'product'. Similarly, in the case of cremation, inorganic materials once residing in the body become funerary 'waste', but the cremated remains are a funerary 'product'. Correspondingly, Olson describes the embalmed body and cremated remains as 'products' of 'industrial art', which is perhaps suggestive that 'product'-based necro-waste attracts different treatment than necro-waste that is explicitly deemed *as* 'waste' (Olson 2016b, pp. 331-332). This is certainly the case in practice, albeit perhaps unconsciously, as cremated remains are scattered, interred, or memorialised by some other method, and the embalmed body is carefully presented, whereas bodily fluids that are discarded during the embalming process and inorganic materials that remain following cremation are disposed of 'back-stage' without ceremonial activity. For this reason, it is important to note that, as Olson argues, 'necro-waste is a ubiquitous but largely unknown presence' (Olson 2016b, p. 326). This notion is key to the discussion within this chapter. To elaborate, for example, while embalming is commonplace, public knowledge of the details of the embalming process is quite minimal, largely because the embalming process is a 'back-stage' funerary practice. Hence, although consent through conversation should be gained for embalming to occur in the UK, discussion surrounding how bodily fluids are disposed of during the embalming process is unlikely to feature in the conversation. While it may seem obvious that something must be done, the focus of discourse tends to be on the notion of preserving the body, rather than the draining of bodily fluids to be replaced with embalming fluids. As such, the disposal of the 'necro-waste' from embalming is largely, as Olson describes, an 'unknown presence'. This element of the 'unknown' nature surrounding embalming is underscored by the absence of data concerning the rate of embalming in the UK: not only do we not know how many of the British dead are embalmed, but moreover, we do not know what proportion of the British public understand the intricacies of the embalming process.

Because necro-waste is a 'ubiquitous but largely unknown presence' in the public sphere, and therefore public opinion regarding the treatment of necro-waste is largely uncertain, this chapter uses comparative examples of existing practices concerning necro-waste to propose potential popular responses to prospective practices. Throughout this chapter, practical examples of necro-waste – including its disposal and/or dispersal – are discussed, followed by the prospective possibilities afforded by AH. For this analysis, Troyer's categorisation of possible necro-waste 'types' and the details he provides concerning what those categories might include helps to formulate the discussion that follows. Of the eleven categories proposed by Troyer, five are particularly useful categories for further exploration in this chapter: (i) 'Dignified Necro-Waste'; (ii) 'Solid Human Necro-Waste'; (iii) 'Creative Necro-Waste'; (iv) 'Industrial Necro-Waste'; and (v) 'Green Necro-Waste' (Troyer 2016, pp. 62-63). Troyer proposes that 'dignified necro-waste' may include ''properly' disposed of human remains through cremation, burial, alkaline-hydrolysis' and 'cadaveric' human organs and tissues for transplantation. 'Solid human

necro-waste' includes metal implants remaining after cremation and dental fillings. 'Creative necro-waste' includes 'energy production methods attached to final disposition technologies' and the use of cremated remains for memorial purposes, such as jewellery and tattoo art using ink containing the remains. 'Industrial necro-waste' includes AH wastewater, crematoria emissions, and 'chemicals used to preserve necro-waste'. Finally, 'green necro-waste' includes human composting, fertiliser from AH wastewater, 'recycled energy captured from industrial processes such as cremation', and 'burial that supports increased and rapid aerobic decomposition' (Troyer 2016, pp. 62-63).

## CURRENT POSSIBILITIES FOR NECRO-WASTE

As already established, necro-waste is ever present, and the funeral industry is the primary disposer of it. While the dead body itself *is* technically necro-waste and therefore needs to be disposed of by one means or another, the body as an entirety is not the only necro-waste 'product' that needs to be 'dealt' with. In this section, current possibilities for 'dealing' with necro-waste are discussed. Three primary examples have been chosen to enable comparative analysis with the possibilities afforded by AH, which are discussed later in the chapter. The three examples of current possibilities for necro-waste discussed are: (i) post-mortem organ donation, which occurs after death but before the funeral and disposal of the body; (ii) the recycling of inorganic materials following cremation; (iii) the reclamation of heat from crematoria. These three, in turn, are discussed in order to prime the exploration of the possibility to re-use inorganic materials and 'produce' fertiliser following the AH process.

### *DIGNIFIED NECRO-WASTE*

Perhaps the most transformative use of necro-waste is that of post-mortem organ donation,[125] which falls within Troyer's 'dignified necro-waste' category. As Cantor argues, 'No use of a cadaver is as immediately beneficial and appealing as transplanting a needed body part to a fatally afflicted or seriously ailing person' (Cantor 2010, pp. 143-144). Hence, as Troyer notes, 'necro-waste doesn't necessarily have to be waste at all', rather, it 'can, and often does, become a valuable commodity when its postmortem value is radically redefined' (Troyer 2016, p. 61). Through the act of post-mortem organ donation,[126] otherwise redundant 'waste' which serves no purpose to the dead body can be productively dispersed and 're-used' because, as Mims argues, 'once dismantled, many useful things can be done with [the body's] component parts' (Mims 1999, p. 252). Troyer refers to an insightful example of a heart transplant from a HIV-positive donor to a HIV-positive recipient to illustrate 'how a previously abject piece of necro-waste can suddenly assume life-saving possibilities' (Troyer 2016, p. 61). Troyer notes that the 'gift of life' can be given by materials which have been 'given a new necro-waste function'; here, Troyer is specifically referring to biological materials, but I further argue that this supposition can be extended to non-biological necro-waste (Troyer 2016, p. 61). This is discussed further in the section concerning 'Possibilities for Necro-Waste Afforded by Alkaline Hydrolysis'.

[125] Arguably, because the organ donor's body is artificially kept 'alive' during the extraction process via the use of a ventilator, one could argue that organs extracted from the 'dead' are not 'necro-waste' because the functionality of the organs persist. However, this complicated dynamic is not overly relevant to the discussion that follows.
[126] Iserson (1994, pp. 51-108), Mims (1999, pp. 252-285), and Cantor (2010, pp. 143-176) provide detailed accounts of the phenomenon of organ donation and the use of body parts alongside associated legal, political, and cultural-religious issues.

To situate this possibility afforded by necro-waste, I now sketch a brief history of organ donation. The scientific advancement of organ transplantation was underway by the 1950s, when research concerning the viability of transplanting organs was undertaken. Early research focused on the possibilities of kidney transplants, 'since live donors, the only kind at the time, could survive with just one of their own' (Nordham and Ninokawa 2021, p. 125). The first successful kidney transplantations occurred in the 1950s, with organs donated by a relation of the recipient. In 1962, the first kidney transplant between non-related patients was successful. By the 1960s, transplants by deceased donors had been successful (Nordham and Ninokawa 2021, pp. 125-126). The National Health Service (NHS) was founded in the UK in 1948 and the UK's first successful kidney transplant occurred in 1960, when an identical twin acted as a living donor for his brother (Cardiff & Vale University Health Board 2018). In 1965, the first kidney transplant from a 'non-heart beating donor' was successful. In 1968, the UK's first successful heart transplant and, separately, the UK's first liver transplant occurred. The heart transplant was the tenth to occur in the world, and the liver transplant was the first to occur outside of the USA (Cardiff & Vale University Health Board 2018). In 1971, demand for donors had grown and the number of transplants occurring had concurrently increased. Consequently, the NHS introduced organ donor cards, specifically for kidney donations. In 1981, the donor cards were expanded to be more generic, which allowed stipulation of what organs one would be willing to donate, including the kidneys, heart, liver, pancreas, and corneas. In 1983, the donor card was once again expanded to include the option of lung donation. The Organ Donor Register was launched in 1994 (Cardiff & Vale University Health Board 2018). The UK has recently shifted towards an 'opt-out' system for post-mortem organ donation. In 2015, Wales adopted a 'deemed consent' scheme in a revision to the Human Transplantation (Wales) Act 2013 (National Assembly for Wales 2015). In 2020, England adopted an opt-out organ donation scheme with the introduction of the Organ Donation (Deemed Consent) Act 2019 (UK Parliament 2020). Scotland adopted a 'deemed authorisation' scheme in 2021 under the Human Tissue (Authorisation) (Scotland) Act 2019 (Scottish Parliament 2021). As such, unless an individual is classified as being in an 'excluded group' or has actively opted-out, agreement to be considered a potential organ donor after death is now assumed.

Particularly given the UK's widespread introduction of an opt-out scheme for post-mortem organ donation, this necro-waste 'solution' is very practical. All present funeral options in the UK offer the possibility for one's organs to be donated after death, before the funeral and burial or cremation takes place, thus enabling necro-waste to be productively dispersed. Nonetheless, the very fact that the UK has decidedly taken steps to make organ donation more likely, by introducing the opt-out rather than opt-in scheme, suggests some reluctance from the British public to participate in such activity. Numerous studies comment on the historically low organ donation rate in the UK, which is particularly evident when compared with the rate in other European countries (see, for example: Coad, Carter, and Ling 2013; Hulme et al. 2016). The Cabinet Office reported that in 2013, 'more than 40 percent of families approached about organ donation said 'no' to donating a loved one's organs', however, where a decision had been made explicit by the deceased being on the NHS Organ Donor Register, '95 percent of families said 'yes'' (UK Government 2014). Perhaps the historic reluctance of the British public to opt for organ donation is rooted in sociocultural and political concerns relating to the 'dignity' of the dead human body. As Robbins notes, while 'living donations appear to be relatively uncontroversial', the 'extraction of human products from what is essentially a corpse, can on the other hand invoke the feelings of violation and mutilation' (Robbins 1996, p. 181).

Given this reluctance, prior to the law changing in the UK to adopt an opt-out system, quite poignant advertising campaigns were commissioned to encourage members of the public to register to be an organ donor. A particularly

stark example is the ‘Kill Jill’ (2009) campaign in Scotland. The TV advertisement depicts a young girl, ‘Jill’, and the narrator asks the viewer, ‘Would you allow your organs to save a life?’. The narrator then says, ‘You have twenty seconds to decide’. After the question is asked, twenty seconds of silence play out, during which Jill’s image begins to fade. As the twenty seconds come to a close, the narrator asks again, ‘Kill Jill?’, with ‘yes’ and ‘no’ once again shown as options. ‘No’ is chosen and the details to ‘register and you could save a life’ are shown on screen (The Union Advertising Agency 2008). Union, the agency that produced the campaign, report that the campaign was commissioned by the Scottish Government because ‘over 70 percent of Scots had not signed the Organ Donor Register’. Following the advertisement campaign, there was reportedly a 242 percent uplift in response (The Union Advertising Agency n.d.). In 2020–2021, 66 percent of British families reportedly consented to donation at the point of asking, and the number of deceased donors increased by 18 percent, suggesting that organ donation is becoming more widely accepted by the British population (NHS Blood and Transplant 2022).

What is particularly interesting to note here is the language of discourse used. As Davies and Rumble note, drawing on the work of Mitchell (2004), organ donation is not explained by a logic of waste and is ‘understood to be distinct from commodity exchange’ (Davies and Rumble 2012, p. 105). At this juncture, it is valuable to briefly sketch the theoretical background of gift and reciprocity theory that underpins this analysis. In particular, the works of Mauss (2002 [1925]) and Godelier (1999) are significant. Mauss’s *The Gift: The Form and Reason for Exchange in Archaic Societies* was eminently influential for anthropological understandings of the phenomenon of gift-giving, and Godelier’s development of Mauss’s work in *The Enigma of the Gift* is particularly noteworthy. Mauss established that the act of gift-giving demands a ‘threefold’ obligation: (i) to give, (ii) to receive, and (iii), to reciprocate (Mauss 2002 [1925], p. 50). Mauss moreover briefly refers to a ‘fourth’ theme that ‘plays a part in this system and moral code relating to presents’ which relates to ‘the gift made of men in the sight of the gods and nature’ (Mauss 2002 [1925], p. 18). While this ‘fourth’ theme remains relatively undeveloped in Mauss’s work, Godelier does develop it, and relates the threefold and fourth obligation to ‘alienable’ and ‘inalienable’ gifts. In essence, ‘alienable’ gifts are items that can easily be transferred between persons and often pertain to some economic value. Whereas ‘inalienable’ gifts cannot be bought or sold, and perhaps may not be capable of being later ‘reciprocated’ because ‘no equivalent exchange is possible’ (Godelier 1999, p. 186); consequently, ‘inalienable’ gifts can rather only be accepted. In this frame of thought, organ donation can be interpreted as falling within the ‘inalienable’ gifts category because the ‘gift’ cannot be reciprocated, only accepted. Hence, many commentators hold the view that ‘the only way to transfer body parts (for example, blood or organs) from one person to another without loss of dignity is through the idiom of “gift” or “donation”. Gifts and donations, in this view, are understood as nonutilitarian (one does not donate for gain) and divorced from exchange (one does not give item *x* for item *y*)’ (Mitchell 2004, pp. 123-124). Davies and Rumble suggest, as noted in the footnote on page 115, that ‘this is probably because the organs are still animated, with the capacity to pass live-giving power to another person’ (Davies and Rumble 2012, p. 105). This factor cited by Davies and Rumble is the very notion that the NHS campaigns have targeted across the years, with gift-giving language heavily featured in the discourse: the loss of one life gifts life to another. As the NHS Organ Donation website homepage reads in 2023, ‘Organ donation: You could save up to nine lives’ (NHS Blood and Transplant n.d.).

*SOLID HUMAN NECRO-WASTE*

As discussed in the preliminary section on 'Necro-Waste', the cremation process does not necessarily fully dispose of all necro-waste because the heat of the cremator does not completely break down inorganic materials. Consequently, inorganic materials, including jewellery, coffin handles, and medical implants are often left along with the cremated remains at the conclusion of the cremation process, albeit very charred. Such materials were previously buried in the grounds of crematoria, which is clearly an unsustainable method for disposing of such necro-waste; Rumble notes that this activity was commonplace 'until very recently' (Rumble 2019). Dunk notes that the ICCM 'are of the opinion that the old method of disposing of the metals by burying in the ground is contrary to current waste regulations' (Dunk 2022). Now, further possibilities are afforded, ensuring as minimal negative environmental impact as possible in disposing of necro-waste, in the form of medical device recycling. In 2004, the ICCM established the Recycling of Metals Scheme for UK crematoria, which presently has 195 crematoria participating in it (Dunk 2022). The 2021 Annual Statistics of the Cremation Society of Great Britain indicate that there are currently 315 crematoria in the UK (Cremation Society of Great Britain 2022), as such, the ICCM's scheme has approximately 61.9 percent of UK crematoria participating in it. Dunk noted that some crematoria operate their own recycling of metals scheme. In the case of the ICCM's Recycling of Metals Scheme, the metals are collected by OrthoMetals,[127] a Dutch company which specialises in the recycling of metals after cremation. The process is as follows: crematoria collect the metals in containers provided by OrthoMetals; OrthoMetals collect the metals from the crematoria, then take the metals to be sorted at their sorting plant in the Netherlands; the sorted metals are then smelted for re-use. Through the ICCM scheme, any profits made from recycling the metals are donated to charity; as of July 2022, the scheme had donated £15,262,000 to charity, signifying both the volume of necro-waste secondary to cremation and the scheme's widespread use (ICCM 2022).

Unlike with organ donation, the 'ownership' of any leftover inorganic materials, including artificial joints, is somewhat ambiguous. Although the organs of the deceased serve no productive purpose to the dead body, the link between the organs and the body they are contained within is quite unambiguous. But who do the residual metals from a dead body belong to? In the case of artificial medical devices, for example, do they belong to the institution that originally implanted them in the body? Or, once implanted, does that medical device come under the ownership of the body in which it resides? Drawing on the work of Mitchell (2004), who stipulates that tissues such as hair are 'abjected parts' which 'can be easily and usefully distinguished from organs' and therefore can be explained by a 'logic of waste' (Mitchell 2004, p. 124), it seems plausible to argue that artificial medical devices can be seen as separate to the organic makeup of the deceased. However, despite the theoretical separation of organic and inorganic matter, the status of artificial medical devices may maintain a blurry ethical line for some. As Olson notes, 'some funeral professionals' have opted 'to bury these items [metallic implants] as well, on the grounds that these implanted materials had become part of the body' (Olson 2016b, p. 333). The ICCM are 'of the opinion that implants are part of the body' and while there is 'no ownership of a dead body and no property in it', 'there is a right to possession of a dead body by an executor or next of kin' (Dunk 2022). As such, the ICCM advises that 'the consent of the Applicant for the Cremation should be gained prior to the cremation' for any metals that might remain to be recycled. If consent is not obtained, the ICCM is of the opinion that the Applicant

[127] See: https://www.orthometals.com/.

'should be given the metals' (Dunk 2022). In light of this, it is interesting to note that OrthoMetals stipulates on its website that 'none of the metals will be recognizabl[e]' and they will be 're-used for other purposes than the original purpose' (OrthoMetals n.d.). This suggests that a particular reverence is attached to the previous use and location of the metal(s).

### *CREATIVE AND GREEN NECRO-WASTE*

A helpful comparison to consider for the possibility of the re-use of medical devices is the public acceptability of the use of waste heat from crematoria, which falls under Troyer's categories of 'creative' and 'green' necro-waste. Excess heat from crematoria is fundamentally a 'waste' product. Yet, despite this fact, what methods are deemed as acceptable ways to 'dispose' of this excess heat is an issue which has been debated within the last decade in the British context. As with the debates surrounding the recycling of metals following cremation, but to a lesser extent, one can ponder to what extent the emissions from cremation are affiliated with the body from which the emissions are created as a by-product of the cremation process. Are the emissions simply 'waste' or something more intimate? Olson argues that 'as funeral consumers, environmentalists, lawmakers and industry regulators grow more and more concerned about the environmental impacts of cremation, the materials ascending the crematorium chimney increasingly become viewed as industrial emissions' (Olson 2016b, p. 333). This view is underscored by the fact that until recently, most UK crematoria would simply allow the excess heat from cremation to be released into the atmosphere, adding to the pollution caused by cremation. Returning to the discussion in Chapter 2, if funerary activity is now situated within the environmental discourse and so, accordingly, such emissions are seen simply as akin to 'industrial emissions', then particularly given the ongoing climate crisis, such emissions ought to be limited. Recognising this necessity, the development of heat reclamation technology has enabled the waste heat from crematoria to be used, rather than emitted and therefore wasted. Heat reclamation technology was developed concurrently with the installation of mercury abatement equipment in UK crematoria. According to data collected by the Cremation Society of Great Britain, in 2019, 57.81 percent of UK crematoria had heat exchangers installed, while 40.53 percent did not; of those installed, 71.84 percent were in use, and 27.59 percent were not (Cremation Society of Great Britain 2019, p. 27). With this data in mind, heat reclamation cannot be described as overwhelmingly common practice at present in the UK, however, it is becoming more typical. Data is not available concerning how the reclaimed heat is used, for example, whether it is used to heat the crematorium building, or if it is used for local authority buildings, etc. Despite the merits of the development of heat reclamation technology for the environmental cause, it has led to questions concerning the morality of using the excess heat from cremating dead bodies for any purpose, but specifically more astutely where money is involved. To highlight the key debates concerning the disposal and/or dispersal of this form of necro-waste, I explore two case studies concerning proposed installations of heat reclamation technology at UK crematoria: Redditch Crematorium and Durham Crematorium.

### *CREATIVE AND GREEN NECRO-WASTE:*
### *REDDITCH CREMATORIUM*

The case of Redditch Crematorium is not only of interest because of the innovative nature of its initiative, but moreover because of the media attention it elicited. In Redditch Borough Council's proposal to install heat reclamation technology at its crematorium, the Council cites the 'energy intensive' nature of cremation and its

subsequent waste products as reasons necessitating the installation (Redditch Borough Council 2011). The Council stipulates that 'the energy needed for a typical 80 minute cremation releases to the atmosphere an average of 300 kW (high 400 kW, low 200 kW) of waste heat as part of the process' (Redditch Borough Council 2011). While these figures are from 2008, and thus new data is required to accurately situate the figures in the contemporary context, the data highlight the scale of the emissions that are produced as a by-product of the cremation process. Recognising the reasons necessitating the installation of heat reclamation technology, Redditch Borough Council proposed that the waste heat from the cremation process should be reclaimed and used at Abbey Road Stadium, a local authority development underway nearby at the time. The initiative of Redditch Borough Council caught the media's attention for the first time in 2011, when the proposal for the reclaimed heat from the crematorium to be used to heat the local authority's leisure centre, and specifically, its swimming pool, were published.

Interestingly, despite the media attention that the initiative attracted, Redditch was not the first council to propose to reclaim and use the excess heat from the cremation process. However, notably, it appears that the pre-existing heat reclamation initiatives were primarily re-using the heat within their crematorium grounds and not external to the site of the crematorium. This is corroborated by the Council's Executive Committee, as the proposal details: 'As far as Officers are aware, it is believed that this specific and innovative project is unique in its nature within the United Kingdom' (Redditch Borough Council 2011). While the documentation points to 'at least three existing examples' of crematoria that had 'already installed mercury abatement equipment' at the time of the Council's proposal, the proposal stresses that these crematoria were 'using a proportion of the heat energy in this way for internal use in their crematoria[,] re-using the recoverable waste heat to heat their local buildings' (Redditch Borough Council 2011). Redditch Crematorium wanted to take its heat reclamation initiative a step further than the existing examples to ensure that 100 percent of the 'waste' heat was re-used, as the Council's Executive Committee emphasises that the existing examples of cremation heat reclamation 'only use[d] a small percentage of the waste heat available' and so, despite their environmentally positive aims, heat was still being wasted through these existing initiatives (Redditch Borough Council 2011).

It is particularly significant to note the level of detail that Redditch Council accounted for in its proposal with regards to public receptiveness to the initiative. For example, the Council stresses the sensitivities that its proposal to use 'waste' heat from the cremation process may invoke with the public. As the Council explains:

> 'The Council is well aware of the sensitivities involved in Bereavement Services. It is important that the message which reaches customers is that although the heat is generated as part of the crematorium process, this heat is removed as part of the process to clean the flue gas and remove mercury. This heat is exhausted to the atmosphere in a totally independent system to the cremators and dissipated to the atmosphere through a separate route than the flue gases. The only difference is that instead of the heat being dissipated into the atmosphere, it is instead re-used in a way that benefits the community for this generation and those to come.'
>
> (Redditch Borough Council 2011)

Yet, despite the Council's awareness of the sensitive nature of its proposal, sensationalist media accounts relating to the proposal were not prevented. Accordingly, media headlines framed the Council's proposal in a provocative light. Crude headlines featured inaccurate representations of what the cremation heat reclamation process

involves, with misconceived descriptions implying that as the deceased's body is burning, the heat from the burning body is directly pumped elsewhere. For example, headlines included: ''Sick' plan to heat swimming pool by plugging it into crematorium gets go-ahead from cash-strapped council' (Daily Mail 2011); 'Crematorium fire to be used to heat leisure centre' (Roberts 2011); and 'It's dead hot in this pool!' (Lakeman 2011). Moreover, the content of these articles is quite negatively leaning. For example, one commentator within the *Daily Mail* article expressed: 'I don't think anyone will use it [the leisure centre] and it will be closed down in 12 months if that's the case' (Daily Mail 2011).

Noting these responses and given that other crematoria had already installed heat reclamation technology, this begs the question, what is the difference between crematoria waste-heat heating a local swimming pool and heating a crematorium building? Again, as with the recycling of metals schemes, perhaps the notion of profit and commodification is a key issue here. In the case of Redditch, both the crematorium and leisure centre were owned by the local authority, so perhaps, for example, it is plausible to suggest that the excess heat is not being commodified or 'sold', but simply used productively and in a circular way which will benefit the wider community, rather than being sold to a private company. But should this matter? In a time characterised by deep environmental concern, simply wasting energy seems counterintuitive to global efforts to reduce the impacts of climate change. Most would likely concede that to directly profit from the disposal of a dead human body is wrong, yet that is precisely what largely occurs in the British funeral industry, since the vast majority of funeral directing firms, burial grounds, and crematoria are for-profit companies, rather than non-profit charitable organisations. Perhaps these media representations allude to a general sense of an expected duty and morality that ought to be associated with the handling of necro-waste, suggesting that there may be a fine line warranting the profiteering nature of the funeral industry for the services of the *care of* the deceased compared with the handling of 'waste' products *from* funerary activity. The debate surrounding these issues could become quite circular. Nonetheless, what is certain is that other crematoria had begun heat reclamation initiatives before Redditch Borough Council's, yet media accounts of the initiatives prior to Redditch's are mostly absent. Perhaps this is because the waste heat was used within the crematoria's own grounds, but this use is still the 'dead being used to warm the living', as it has been framed, so is there a difference? In response to the commentator in the *Daily Mail* article referenced above, time has indeed shown that the leisure centre has not shut down as a result of its use of reclaimed heat from the crematorium, rather it is still functioning ten years later. This suggests that the use of reclaimed heat from crematoria for such means is an acceptable practice. Moreover, this may be increasingly the case in a context framed not only by environmental concern but also by a narrative of 'energy crisis'.[128] Leisure centres have recently featured in UK media headlines as being 'under threat' of closure because of the contemporary energy crisis (see, for example: Scott 2023; Sport England 2022). With this context in mind, it is worth pondering whether Redditch's plans would have been quite so controversial if posed as a 'solution' to the issues caused by the contemporary energy crisis. Perhaps, then, today, the headlines would read: 'Energy crisis averted: recycled heat from local crematorium saves swimming pool from closure'.

[128] The UK has experienced an 'energy crisis' since 2021. The energy crisis is a global problem, with the International Energy Agency defining the current energy crisis as 'the first energy crisis that's truly global' (IEA n.d.), but its effects have been felt particularly severely in the British context. In the UK, average annual household energy bills have more than doubled between 2021 and 2023, with National Energy Action estimating the 'average annual household energy' bill at £1,138 in April 2021, compared with £3,000 in April 2023 (NEA n.d.).

## *CREATIVE AND GREEN NECRO-WASTE: DURHAM CREMATORIUM*

In a similar vein to the case of Redditch Crematorium, Durham Crematorium attracted media attention in 2011 when its proposal for the use of reclaimed heat from the crematorium was published. Durham Crematorium proposed plans for its heat reclamation technology to be used to heat the crematorium's chapel and then any remaining excess heat was proposed to be fed back to the national grid. The proposal sought to install both heat reclamation technology and electricity generating equipment. The case of Durham further highlights how the media have sensitively responded to issues concerning by-products from funerary activity. Just as Sandwell Council's Resomator installation attempt elicited headlines alluding to 'granny going down the drain' (for example, see: Collins 2017; Collier 2017; Norton 2017b) and Redditch Crematorium's plans elicited commentary of 'dead bodies to be burned to heat UK swimming pool' (NBC News 2012), Durham's plans likewise attracted headlines such as 'Crematoriums add corpse power to electricity grid' (Copping 2011). As previously noted, media responses are inevitably sensationalist, with 'click bait' headlines hoping for increased readership, nonetheless, the 'sensationalist' concerns emulate those discussed behind closed doors in board meetings that produce assumed public responses to proposals. This is accentuated most clearly by the example of Severn Trent's response to Sandwell Council's Resomator proposals, which cited 'concerns about the public acceptability' of the proposal as a reason for rejecting it (Matthews-King 2017). However, perhaps if the media's assumed public outrage is accurate with regards to the quite minor proposal of utilising excess heat from crematoria to benefit the living, then the notion of re-using waste medical devices is a non-starter. I disagree with this supposition and believe that the British public are much more amenable to such ideas than those with power assume them to be.

To emphasise this point, analysis of the comments section of one media article concerning Durham Crematorium's plans provides an interesting case study. The article, entitled 'Crematorium wants to generate electricity from its burners to sell power to National Grid' (Finighan 2011), published by the *Daily Mail*, attracted 97 comments from members of the public. Reading the public comments, the vast majority of the comments are overwhelmingly practical in nature and make reference to the excess heat as 'waste'. For example, one comment, which summarises the majority of the commentator's opinions, expressed: 'the heat is waste, let it do good!'. Another reader commented: 'I am all for this. It has no [e]ffect on the cremation process and merely uses the excess heat. It causes no disrespect to the dead whatsoever and every crematorium should be doing it.' Nearly 59 percent of the comments elicited the response that the use of reclaimed heat was an acceptable practice, 11 percent deemed the practice unacceptable, and nearly 30 percent of responses were either not relevant or neutral. While many headlines are evocative, content analysis of media articles concerning Redditch's and Durham's plans, amongst others, found that, with the exception of a few articles with negatively leaning content, the content of such media articles is largely neutral and explanatory. For example, some articles noted the environmental and cost-reducing benefits of the initiatives. This was also the case with the media's response to the denial of a Trade Effluent to Sandwell Council for Resomation, which is explored fully in Chapter 6. Perhaps, then, this narrative of 'excess' and 'waste' being used for 'good' could be appropriated for discussions concerning the destinies of 'waste' metals from a dead body and the nutrient-rich residual effluent of the AH process.

To further validify my argument that the British public are much more amenable to what may be deemed as 'controversial' proposals relating to funerary activity and subsequent necro-waste with data, Davies and Shaw's study, *Reusing Old Graves: A Report on Popular British Attitudes* (1995), is particularly insightful. Davies and Shaw's research was commissioned to inform public policy on the possibility of the re-use of graves in Britain, funded by some 70 British Local Authorities and Cemetery Committees. In personal communication, Davies recalled that he was told by a member of the House of Commons Select Committee that a representative of the Home Office had expressed the view that the re-use of graves would be deemed as unacceptable by the British public, but Davies and Shaw's data pointed to the opposite view. Davies and Shaw found that of those surveyed, when asked about their opinions regarding what would be a 'respectable time lapse before an old grave might be used for new burials by a different family', 55 percent were likely to support the re-use of graves, 30 percent were likely to oppose the re-use of graves, and 15 percent were undecided (Davies and Shaw 1995, p. 40). Hence, while the assumed public response was opposition, in reality, over 50 percent of a representative sample of the British population would support the re-use of graves. The study's findings informed the *Eighth Report of the Select Committee on Environment, Transport and Regional Affairs* (2001) concerning cemeteries and grave re-use.

Significantly, Davies and Shaw's findings emphasise the importance of and need for education and discussion surrounding 'sensitive' and 'controversial' issues relating to funerary activity. This is because respondents' opinions varied during the course of their interviews, thereby suggesting the worth of the process of reflection. Following the presentation of further information and having been asked additional questions, the initial responses regarding the acceptability of grave re-use changed. As such, Davies and Shaw found that when participants were further pressed about their opinions about grave re-use, those who were likely to support the re-use of graves increased to 62 percent, those who were likely to oppose the re-use of graves increased to 35 percent, and those who were undecided decreased to 3 percent (Davies and Shaw 1995, p. 50). Notably, Davies and Shaw argue that their study 'seems to indicate […] the importance of providing some information on which people may base their responses, thereby turning the responses into slightly better informed answers' (Davies and Shaw 1995, p. 50). To emphasise, Davies and Shaw suggest that 'had the topic been approached in a simple postal questionnaire or a street-corner interview with a yes/no answer […] then the nature of the responses would have been quite different with a very high level of objection to the idea' (Davies and Shaw 1995, p. 50). The same logic can be applied to the British public's receptiveness to the possibilities for the productive use of necro-waste explored in this chapter. Referring to the previous example, if simply asked, 'Should the heat produced by crematoria be used to heat swimming pools?', popular responses may be more divided than if they were asked the same question following the presentation of information provided in Redditch Borough Council's proposal, which emphasised that 'instead of the heat being dissipated into the atmosphere, it is instead re-used in a way that benefits the community for this generation and those to come' (Redditch Borough Council 2011). This approach is clearly effective as such narrative has also been adopted to describe Huntingdon Crematorium's heat reclamation scheme, which uses the 'waste' heat to heat its glasshouses, as discussed in Chapter 2; Huntingdon Council describes the use of the 'waste' heat as enabling 'new life' from the life lost by 'growing something new' (Peacock 2022).

Davies and Shaw's significant research was conducted over twenty-five years ago, and studied a population who were much more religiously affiliated than that of the 2020s. How this differential factor would, or would not,

influence the results of the same survey if it were to be conducted now is guesswork. Nonetheless, with the environmental cause heightened, one can suppose that the population of the 2020s may be more receptive to the notion of the re-use of graves than the population of the mid-1990s. Hence, based on the cases discussed thus far in this chapter, it is plausible to suggest that if the re-use of graves, the use of excess heat from crematoria and, especially, post-mortem organ donation, are deemed as acceptable practices, then the re-use of artificial medical implants and the 'production' of fertiliser do not seem too far-fetched as plausible methods of dispersing the necro-waste that survives the AH process.

## POSSIBILITIES FOR NECRO-WASTE AFFORDED BY ALKALINE HYDROLYSIS

The previous section explored some of the current possibilities for necro-waste products that are currently used in the UK. The following section uses the former to appropriately situate the additional possibilities afforded by AH. As with burial and cremation, AH offers the possibility for necro-waste products to be disposed and/or dispersed of productively. Currently, two means of dispersal are indisputably possible for a funeral involving AH: post-mortem organ donation and metal recycling. Additionally, AH provides further opportunities for the productive use of necro-waste, including the *possibility* to re-use medical devices and the ability to 'produce' fertiliser from the AH effluent, both of which require further exploration. While the 'production' of fertiliser from the AH effluent is currently undertaken by some AH providers in the USA, medical device re-use is not commonplace. This section discusses these possibilities and situates them within the context of contemporary practices associated with necro-waste.

### *THE RE-USE OF MEDICAL DEVICES*

*'Just like organ donors, those that bequeath their medical implants can bid farewell to the world with the knowledge they offer a stranger a second chance at life'*
(Swain 2014)

As noted above, one method by which necro-waste can be productively dispersed of following AH is through the process of residual metal recycling. The AH process leaves artificial joints, implants, and other medical devices 'like new' (see Figures 9 and 10), enabling the possibility to recycle and/or, possibly, re-use such devices. Hence, just as discussions surrounding post-mortem organ donation have filled a narrative space about 'gifts' from the death of an individual – the death of one gifts life to another – the narrative is set to widen with the possibilities afforded by the AH process. While it is not yet clear how the possibility of the re-use of medical devices will play out in the UK context, the prospect of recycling and/or re-using residual medical devices adds further depth to the notion of 'giving something back' (Rumble 2010) which is afforded by natural-woodland burial. As with AH, the cremation process enables the possibility of metal recycling, however, the possibilities with AH go a step further.

As previously discussed, following the cremation process, 'orthopaedic implants […] become surplus metallic waste' (Rumble 2019, p. 136). Consequently, 'some of our material remains are sorted out to continually circulate beyond the human, achieving afterlives of their own, not so much disposed of but rather dispersed as metallic residues with economic value' (Rumble 2019, p. 136). Presently, AH offers the same possibilities as cremation as far as metal recycling goes. However, there is a key difference in the condition of inorganic residues following the AH and cremation processes, which may enable further possibilities in the case of AH: while inorganic

residues are left ‘like new’ following the AH process, such products become charred and damaged by the cremation process. Hence, at the conclusion of the cremation process, although recycling of the resultant metals is possible, the residues are damaged and so could not directly be re-used. Contrastingly, the residues following AH are so clean that it is possible to read the serial number of an implant. As such, it is very plausible to suppose that the ‘used’ medical implants that survive the AH process could be re-used for the same purpose. Moreover, while the recycling of charred inorganic materials (usually metals) following cremation far outweighs disposing of the material in terms of environmental impact, AH furthermore facilitates possibilities for other inorganic materials including silicone, for example, to be recycled and/or re-used in addition to metallic materials because *all* inorganic materials survive the AH process. As Rumble et al. (2014) note, AH potentially provides the opportunity for ‘inorganic parts from the dead’ to be ‘reused and recycled in another living body, thus turning the implants into gifts to others beyond death’ (Rumble et al. 2014, p. 250). Regnier spoke very promisingly about this possibility during his interview, explaining that while more research needs to be conducted to look into the practicalities of implant re-use following AH, it may be key to enabling the possibility for more economically viable implants to be available in ‘developing’ countries (Regnier 2022). Considering the number of yearly procedures that occur in the British context, necro-waste in the form of artificial joints is presently a growing phenomenon as The National Joint Registry reports that between 1 April 2003 and 31 December 2020, 3,152,913 procedures have taken place in the UK; these include hips, knees, ankles, elbows, and shoulder replacements (National Joint Registry 2021, p. 39). This figure could be higher still, however, due to the COVID-19 pandemic, ‘106,922 (48.8 percent) fewer joint (hip, knee, shoulder, elbow, ankle) replacements were performed in 2020 compared to 2019’ (National Joint Registry 2021, p. 345). Over 200,000 primary hip and knee replacements were performed in England, Wales and Northern Ireland in 2019 (National Joint Registry 2021, p. 344).

Figure 9. Medical implants following the AH process. Image courtesy of Dean Fisher.

In addition to metal recycling, cremation technically already affords the possibility for pacemakers to be re-used because pacemakers must be removed from the body before cremation to avoid the device exploding during the cremation process. With AH, pacemakers do not have to be removed before the process and remain perfectly intact following the AH process. Fisher can be seen demonstrating that a pacemaker removed from remains following the AH process still works during a video interview with the *Daily Mail* (2017), as can Mikolai in an educational TikTok video (Mikolai 2023). While only a footnote here, this component of the AH process may appeal to many over the cremation process because AH does not require an 'intrusive' incision of the deceased to remove the pacemaker device. Moreover, as already stated, unlike with the cremation process, medical implants following the AH process are essentially sterilised, so the scope for medical implant re-use is arguably much wider with the AH process than the cremation process. Nevertheless, in order to provide a direct comparison and discuss potential concerns surrounding medical implant re-use, here, I discuss the practice of pacemaker re-use since this is also possible following the cremation process and appears to be happening in certain circumstances.

Organisations, including 'My Heart Your Heart'[129] (USA) and 'Pace4Life'[130] (UK), exist to collect donated pacemakers, refurbish them, test their efficiency, and distribute them to those in need. Pacemakers that are currently re-used are refurbished and their battery life is tested. Only pacemakers with a battery life of over 70 percent are re-used by 'My Heart Your Heart' and 'Pace4Life'. If the battery life of the device is found to be under 70 percent, or the device is otherwise deemed as unsuitable for human use, the pacemaker materials are recycled. Hughey et al. (2013) note that 'despite reductions in the cost of pacemakers and near-ubiquitous access to them in wealthy nations, pacemakers are unaffordable and remain beyond reach for many patients in low- and middle-income countries' (Hughey et al. 2013, p. 577). The disparity in availability (and affordability) of such devices 'results in significant morbidity and numerous preventable deaths per year' (Hughey et al. 2013, p. 577). Thus, 'despite regulatory and legal challenges, pacemaker reuse has the very real potential to help hundreds of thousands if not millions of patients who currently are denied this therapy due to its prohibitive cost' (Hughey et al. 2013, p. 578). While the present study is not scientific, it seems plausible to suggest that the re-use of medical implants such as stents and artificial joints would be more straightforward than testing for the efficiency and projected lifespan of a used pacemaker. Nonetheless, numerous studies have demonstrated that the re-use of pacemakers is certainly possible, as Hughey et al. conclude 'pacemaker donation and reuse has been shown to be logistically feasible as well as safe' (Hughey et al. 2013, p. 578).

Not only has the feasibility of pacemaker re-use been evidenced, but moreover there is evidence of a willingness to donate medical implants post-mortem. Two academic studies are of interest here to elaborate on the findings that are demonstrative of this willingness. A 2007 study of Chicago morticians reviewed how morticians currently dispose of pacemaker devices and considered patients' opinions of the destinies of their implanted medical devices. Regarding the current method of disposal of devices, the study found that 44 percent of the morticians surveyed disposed of devices ('cardiac rhythm management devices') as medical waste, 18 percent donated devices for human use in 'developing nations', and other methods of disposal included returning the devices to kin, returning the devices to the manufacturer or hospital, and storing the devices in the mortuary (Kirkpatrick et al. 2007, p. 479). Hence, this illustrates that the donation of devices was a minority, but not non-existent, practice.

[129] See: https://myheartyourheart.org/.
[130] See: https://www.pace4life.org/.

Regarding patients' opinions, the study found that some 87 percent of the patients surveyed did not know how an implantable device is routinely handled post-mortem, 8 percent thought that devices are buried with the deceased, 5 percent thought that they are routinely removed, 4 percent thought that they are re-used or recycled, and less than 1 percent thought that they are donated to charity (Kirkpatrick et al. 2007, p. 480). Despite the overwhelming lack of knowledge concerning what presently happens to devices, some 91 percent of participants reported that they would be willing to sign a 'device advance directive' which would allow the device to be donated for medical use 'in medically underserved nations' (Kirkpatrick et al. 2007, p. 480). Additionally, 90 percent of participants would be willing for the device to be returned to the manufacturer, 79 percent of participants would be willing to donate the device for animal use, and 45 percent did not care what happened to the device. Only 3 percent of participants said that they would refuse removal and interrogation of the device (Kirkpatrick et al. 2007, p. 480). This indicates an overwhelmingly positive response to the prospect of artificial medical devices being re-used post-mortem. Notably, this study was conducted before cremation became the normative practice in the USA and thus more contemporary data would provide further insight; the cremation rate reached 50.1 percent in the USA in 2016, whereas in 2006, the rate was 33.8 percent (CANA 2022). Furthermore, a study published in 2022 corroborates the findings discussed above. The 2022 study considered the opinions of patients and patients' families at hospitals in Nicaragua, Pakistan, Ecuador, and Lebanon, asking participants: 'If you needed to have a pacemaker in order to live, would you be willing to accept a pacemaker that had already been used by someone else who had passed away?' (Hughey et al. 2022, Appendix). The study found that some 75 percent of respondents would accept a used pacemaker. Regarding the donation of their own medical devices post-mortem, the study found that 96 percent of respondents would be willing to donate their own pacemaker after death and 93 percent would be willing to donate a family member's pacemaker (Hughey et al. 2022, p. 475). Hence, the findings exemplify a high level of receptiveness to the prospect of post-mortem medical device donation. A review of literature concerning the re-use of pacemakers, both in terms of viability and acceptability, proved quite extensive. What is not known is to what extent these debates would be replicated if the discussion extended to the re-use of medical implants generally. As with the narrative that has underpinned much of the discussion within this chapter, the notion of charitable giving versus potential to profiteer seems significant in determining the acceptability of such acts. If medical devices are donated post-mortem to be re-used in less-affluent countries, then it can be argued that the charitable gift from the dead altruistically facilitates medical advancement and the prolonging and/or betterment of another life. Hence, it seems that narrative and intention is key to the debate.

Figure 10. Medical implants following the AH process. Image courtesy of Dean Fisher.

*THE 'PRODUCTION' OF FERTILISER*

In addition to the necro-waste possibilities discussed in the previous section, the AH process facilitates the opportunity to 'produce' fertiliser from the AH effluent. Although it is not yet clear how this possibility will shape up in the British context, some AH providers in the USA offer their clients the return of both the reduced bone remains and a fertiliser product. The production of fertiliser via the AH process lends itself to the adoption of Rumble's (2010) analysis concerning the reason that some individuals seek the choice of natural-woodland burial to allow the individual to 'return to nature' in death. Just as in natural-woodland burial, where the body may be conceptualised as 'feeding the earth', the fertiliser by-product of AH enables a similar 'return to nature' because the necro-waste, which may be conceptualised as organic 'residues' from the body, can be used to nourish plant life. Indeed, alluding to this notion, the words 'return to the earth' are featured on the container that Be a Tree Cremation use to return the fertiliser product to kin (see Figure 11). As previously discussed, as part of the AH process, the pH of the AH effluent must be reduced before it can be released into wastewater treatment systems. In the case of Resomation technology, this is achieved by the addition of sulphuric acid. Nelson reported that Be a Tree's system uses citric acid to reduce the pH (Nelson 2022). Sullivan spoke positively about the opportunity to produce fertiliser via the AH process, commenting that as a result of the acid-balance process, 'one of the side effects is you get potassium sulphate, which is the most common fertiliser in the world' (Sullivan 2022). As such, Sullivan believes that 'the natural potassium hydroxide or potassium sulphate that you will get from a Resomation process should be allowed to be land applied in the future. And that would act as again that cycle of life.' (Sullivan 2022). To illustrate the practical offering of this possibility, including clients' receptiveness to it, the services provided by Be a Tree Cremation, based in Denver, CO, USA, act as a helpful case study.

Be a Tree Cremation[131] is an AH provider based in the USA that offers the return of a fertiliser product following the AH process. Be a Tree explains on its website that the 'liquid byproduct of water cremation is a sterile mixture of amino acids, peptides, and sugars […] It makes an excellent fertilizer for plants and trees. We call this liquid Tree Tea™' (Be a Tree Cremation n.d.-a). According to Be a Tree, the composition of the 'fertiliser' is as follows: 'Total Nitrogen (N) 0.54%; Available Phosphate (as P2O5) 0.02%; Soluble Potash (K2O) 0.45%'. To contextualise this information, Be a Tree explains that 'Tree Tea™ is high in nitrogen (nearly three times as high as Miracle-Gro), yet lower in phosphorus' (Be a Tree Cremation n.d.-a). Following the AH process, kin of the deceased 'are welcome to keep as much of the Tree Tea™' as desired; see Figure 11 for a visual depiction of how a small volume of Tree Tea™ fertiliser is returned to kin. Be a Tree's innovative offering has evidently appealed to clients as Emily Nelson, Founder and CEO of Be a Tree, commented that 'folks are very receptive to it and love the idea', with some 70 percent of clients taking 'some amount' of the Tree Tea™ away with them (Nelson 2022). Any remaining fertiliser that is not taken away by kin is 'used on flowers and other non-edible plants at Half Moon Farm in Lakewood' (Be a Tree Cremation n.d.-b). The emphasis on the fertiliser only being used on 'flowers and other *non-edible*[132] plants' is an interesting point to ponder. Although the effluent that remains following the AH process contains no DNA, the decision for the fertiliser to *only* be used on *non-edible* flowers and plants suggests that the fertiliser does not have the same status as 'normal' fertiliser, and perhaps implies that something 'human' is retained in its prescribed qualities. This outlook is reinforced by current NOR,

[131] See: https://www.beatreecremation.com/.
[132] Emphasis added.

or ‘human composting’, providers in the USA who offer the options of (i) collecting the resultant compost for use on private land or to be scattered, or (ii) for the compost to be donated to be used on conservation land. For example, Recompose[133] ‘offer the opportunity to donate [the] soil to Bells Mountain, a 700-acre nonprofit land trust in southern Washington’ (Recompose n.d.). Interestingly, both the AH and NOR processes produce a vast amount of their nutrient rich by-products, and thus, while the providers discussed here both offer kin the opportunity to retain the by-product in its entirety, both are very suggestive that this would largely be impractical. As such, ‘appropriate’ means of dispersing the remaining by-product have had to be established by providers, which inevitably leads to the question: What is the (human) status of this by-product?

Is the ‘humanised’ view of the by-products of AH and NOR simply a romanticised view? Or should such necro-waste by-products be treated with a particular sense of dignity *because* they are the product of funerary activity? Moreover, would the persistence of DNA in the AH effluent or NOR compost further complicate the debate? Rumble et al. highlight that some may view the ‘liquid product of alkaline-hydrolysis to be […] not profane matter but sacred water that was once the ‘water of life’’ (Rumble et al. 2014, p. 250). Moreover, returning to the previous discussions surrounding wastewater approvals in the UK and USA, many have deemed the AH effluent to be synonymous with the dead body. This brings us back to Olson’s funeral industry *product* versus funeral industry *waste* debate: what is the difference between the disposal of bodily fluids from the embalming process and the disposal of AH effluent? To get to the crux of the issue, it seems that the bodily fluids disposed of during the embalming process are theoretically much more ‘the person’ than the effluent following the AH process *because* the bodily fluids contain DNA whereas the AH effluent does not. Yet, perhaps paradoxically placed with this stance, it is notable that AH effluent is treated before it is released to the sewers, whereas bodily fluids removed during the embalming process are not. In this regard, one could argue that the bodily fluids disposed of during the embalming process are fundamentally ‘human’, whereas the effluent disposed of during the AH process no longer possesses ‘human’ qualities. Perhaps, alternatively, the absence or presence of DNA is not relevant, and rather it is the degree of technology or ‘treatment’ used in the respective processes that affects the acceptability of their disposal. It seems, however, that this frame of thought would also make the disposal of AH effluent more ‘acceptable’ than the disposal of bodily fluids during the embalming process. If both eventualities are deemed to be disposing of ‘human’ waste, then perhaps in the cases of AH providers producing fertiliser and NOR providers producing ‘human compost’, it can be argued that funeral industry ‘products’ are *manufactured* which may therefore alter both the status of the products and consequently what methods are deemed as ‘appropriate’ means of disposing and/or dispersing them. Once again, the notion of not-for-profit altruistic donation comes to the fore.

Nonetheless, whatever conclusion one comes to regarding the acceptability of the use of this necro-waste, the opportunity to ‘give something back’ to nature seems to be a significant pull for some when choosing AH as a means of body disposal. Touching on this aspect, Nelson referred to a conversation that she had had with a member of her family before she established Be a Tree Cremation. Nelson explained that her family member had told her that they ‘want to be a tree’ when they die, and so Nelson responded by asking if that meant that they wanted to opt for natural-woodland burial, but her family member said ‘No, no, no, I want to be cremated’ (Nelson 2022). Inspired by this idea, Nelson subsequently realised that ‘the water at the end [of AH] can actually be really good for the earth and good for the soil’ and so this desire to ‘become a tree’ could truly be facilitated by the AH

[133] See: https://recompose.life/.

process, in a way that cremation cannot because of the makeup of cremated remains. Hence, this characteristic of AH enables Be a Tree to 'really connect those dots' for those who 'want to be eco-conscious, and are also wanting to go back to nature' but want 'the simplicity of a cremation' (Nelson 2022). The significance of the appeal of this notion for those opting for AH is further evidenced in the content of public reviews on Be a Tree's website (see 'What families are saying' on https://www.beatree.com), in which the opportunity to 'give back' and 'become one' with nature are dominant themes. Numerous reviews allude to the notion of the fertiliser option as enabling the deceased's essence to 'live on' beyond death. This is achieved by the dead being conceptualised as 'becoming a tree' or 'nourishing' and 'feeding' the soil, plants, and trees, 'nurturing' the environment rather than 'polluting it'. The reviews shed light on the appeal of this service and highlight that the use of this necro-waste facilitates a further opportunity for memorialisation. Two reviews of Be a Tree's services particularly stand out for this reason:

> Jack T – August 2, 2021: 'My wife and I were heartbroken to lose a pregnancy late term, but wanted to honor and remember our daughter. […] We now have ashes and Tree Tea from our daughter, which we'll use to help plants grow throughout the house.'
>
> Jackie W – January 3, 2022: 'I feel that this was the best possible choice for my son […] there is a sense of solace in knowing that he is providing nutrients to the soil and gardens via his "Jordan Juice".'

Hence, despite potential controversy that may be founded in conversations regarding the production of what some may call 'human fertiliser', this method for dispersing of the liquid residues from the AH process has proven to be appealing to clients in the case of Be a Tree Cremation. Perhaps if this method of dispersing necro-waste is widely adopted, AH could help to counteract global fertiliser shortages (Wilson 2022). While the overarching debate concerning what products the fertiliser could be used on remains largely unsettled, current providers of human 'compost' and 'fertiliser' unanimously use the funerary by-products – necro-waste – on vegetation that will not be consumed by humans, and this has proven to be relatively uncontroversial.

Figure 11. 'Tree Tea™' Fertiliser produced by Be a Tree Cremation. Image courtesy of Emily Nelson.

## DEATH-STYLE EMULATING LIFESTYLE: IS THE DISPERSAL OF NECRO-WASTE ACCEPTABLE?

Drawing on Rumble et al.'s notion of the act of 'dispersal' rather than 'disposal', this chapter concludes by considering whether the dispersal of necro-waste products in the form of recycling, re-use, or direct use as a newly generated product is an acceptable practice. As discussed throughout this chapter, in the UK, at least three forms of productive necro-waste dispersal currently occur: (i) post-mortem organ donation; (ii) metallic residue recycling; and (iii) crematoria heat reclamation. Therefore, the simple answer to the question posed in the title of this concluding section could be 'yes' because it already happens throughout the UK and elsewhere. However, as has been demonstrated throughout this chapter, the dispersal of necro-waste is not necessarily a morally neutral concept, and the practice is likely to elicit differing responses depending on one's worldview. What has become clear throughout this chapter is that the ultimate 'destination' of necro-waste seems to be an important consideration, with the 'waste' seemingly maintaining a particular status affiliated with its once human host. Nonetheless, this is evidently not the case for *all* necro-waste, as demonstrated by contemporary embalming practices; though it must be acknowledged that this nuance in categorisation may be because of a lack of popular understanding of the embalming process. To conclude the exploration of issues discussed throughout this chapter, I ponder whether there has been a popular shift in outlook whereby the 'focus' of intent is on 'gifting, even after death' (Rumble et al. 2014, p. 253), meaning that the dispersal of necro-waste products is an acceptable practice.

For what has been the primary focus of this chapter, namely, the act of 'gift-giving' bodily 'waste' post-mortem, Davies's emphasis on the influence of pragmatic ecology is significant. Davies notes that 'we should not ignore some of the most basic aspects of life that, in their own way, engender world views for many' (Davies 2015, p. 351); as such, 'ordinary interests and concerns should not be overlooked' (Davies 2015, p. 352). Stressing the necessity to focus on the 'ordinary' aspects of living, Davies discusses the notion of 'pragmatic ecology', which emerged 'out of necessity' in the early twenty-first century. Pragmatic ecology, Davies explains, requires 'entire populations' to 'sort their domestic refuse into different bins for recycling and disposal purposes' (Davies 2015, pp. 351-352). Adopting Davies's emphasis on the notion of pragmatic ecology, it is plausible to question its applicability to funerary activity and specifically question: if the population are routinely familiar with the activity of sorting materials to be recycled or disposed of within the home, then how difficult would it be for the population to conceive that 'bodies' or, more aptly, human 'remains' are sifted for materials to be recycled and/or re-used? Within the frame of pragmatic ecology, and contextually situated in a time of deep ecological concern, the absence of such practice seems fundamentally illogical. Conversely, framed within the experience of the bereaved, to reduce the inorganic residues of the dead body to mere objects which can either be productively recycled and/or re-used, or unsustainably disposed of, may be too strict a binary. Hence, the narrative surrounding necro-waste dispersal practices is key to the perceived acceptability of these practices. With regards to the 'new' necro-waste dispersal practices that are afforded by AH, then, it is necessary to ground their portrayal within culturally accepted narratives of existing practices. This chapter has demonstrated that the overarching narrative that has been adopted for the description of existing practices has been rooted in gift theory, rather than taking a more utilitarian approach. Nonetheless, Rumble et al. argue that the narrative surrounding 'organ donation set a precedent in introducing the concepts of the useful dead, and of the dead as a gift to the living', meaning that it has consequently 'become easier to speak of the dead sustaining life in an ecological sense' (Rumble et al. 2014, p. 254).

*METALLIC RESIDUE RECYCLING*

Returning to the contemporary British practice of metallic residue recycling following the cremation process, significant insight is gained through an exploration of how this practice has been presented to the British public. Crematoria have largely framed the dispersal of metallic residues following the cremation process as an acceptable practice through the guise of sustainability and gift-giving language by emphasising: (i) the reduction of the environmental impact of cremation by not disposing of metallic residues as waste; and (ii) that altruistic charitable gift-giving is a direct result of the process. This is evidenced in a near-blanket manner in a review of the literature produced by crematoria on the recycling of metals, which is provided to those making the decision regarding consent. For example, Stafford[134] Borough Council's website explains that it was previously 'standard practice […] for metals remaining following a cremation to be collected and respectfully buried in the grounds of crematoria and cemeteries', however, it is now recognised that this 'is no longer considered to be a satisfactory solution as it introduces metals into the ground that will remain there forever' (Stafford Borough Council 2022). The language used in this literature is significant, beginning with emphasis on the 'respect' with which metallic residues are treated, and followed by the subtle emphasis on the unsustainable nature of the previous practice, with the terms 'introduce' and 'forever' alluding to the fact that the land was previously being filled with materials that are unnatural and will not degrade. Hence, this narrative appeals to the environmental cause warranting such dispersal. Approaching the practice through the guise of charitable gift-giving, the Council appeals to the bereaved by stating that: 'It is our hope that they [the bereaved] take comfort in the knowledge that their loss is helping fund a charity dedicated to making life easier for others who have suffered bereavement' (Stafford Borough Council 2022). Again, the choice of language here is particularly noteworthy because the Council is clearly seeking to draw on the emotional nature of a bereavement to appeal to those making the decision concerning whether the metallic residues can be collected and recycled. It is especially considerable to note the use of the notion of 'taking comfort' in the act of charitable gift-giving to 'make life easier for others' that, the Council stresses, is enabled by consenting, suggesting that even through loss, something positive can be gained from the residues of the dead. Gift-giving language is also drawn upon in the case of Salford City Council, whose webpage dedicated to the matter of metal recycling following cremation is entitled 'A final gift, the recycling of metals' (Salford City Council n.d.). In this way, the dead body is framed as a beneficial resource, which, through appropriate means of dispersal, can both (i) mitigate the environmental impact of cremation by recycling vital resources, and (ii) in doing so, help others, both in terms of a monetary donation and the resultant activities enabled by the donation.

Analysis of the figures provided by UK crematoria regarding the amount of money that is donated to charity year-on-year through the ICCM's Recycling of Metals Scheme suggests that the British public are very amenable to the act of dispersing necro-waste products for altruistic means. Again, drawing on the case of Stafford Borough Council, in the first year of its participation in the ICCM's Recycling of Metals Scheme (2013), £3,400 was donated to charity. In February 2022, the scheme donated £15,000 to charity, demonstrating a dramatic increase in charitable revenue generated over the course of a decade. This is indicative of two potentially influential factors. Firstly, it may be suggestive that over the course of time, kin have become increasingly willing to consent to the

[134] Stafford Borough Council has been chosen at random simply because it was the first result of an online search for 'UK cremation metal recycling'.

donation of metallic residues for recycling purposes. Secondly, and possibly concurrently, it suggests that there has been an increase in the number of implants 'contained' within the British population and so the number of metallic residues from dead bodies following the cremation process is increasing year-on-year; this further demonstrates the necessity for something to be done with this necro-waste. Here, it is important to stress that it is very unlikely that the issue of post-cremation metal recycling is verbally discussed with kin when the consent to recycle residues is gained, rather a checkbox must be ticked by the applicant for cremation on the cremation form. In this regard, the first point made regarding an increased willingness of kin to donate may not hold a great amount of significance in relation to the increased uptake of the practice. Nevertheless, given the widespread nature of the ICCM's Recycling of Metals Scheme, and the clear success it has warranted, with a total of £15,262,000 donated to charity since the inception of the scheme in 2004 (ICCM 2022), it is plausible to suggest that the vast majority of the British population deem the recycling of metals for charitable donation following the cremation process to be an acceptable means of dispersing necro-waste. Arguably, this dispersal is strongly encouraged by the funeral industry, rather than sought out by the British public, because the previous practice of burying metallic residues within site grounds is no longer deemed as an acceptable practice since it was recognised to cause a detrimental environmental impact. As such, if the applicant for cremation does not consent to the metallic residues being collected and recycled, crematoria offer the option for the residues to be returned to the applicant. In a time framed by ecological concern, coupled with the sheer impracticality of being left with charred metallic residues, I suggest that the vast majority of people would not opt for the latter option. Therefore, perhaps only as the result of convenience to the bereaved and forced change in practice at crematoria, the recycling of metallic necro-waste is largely deemed as an acceptable practice in the British context. Consequently, whatever the motivations, the success of the ICCM's Recycling of Metals Scheme is remarkably telling of the British public's willingness to participate in the productive dispersal of necro-waste.

### *CONSENT AND THE ALIGNMENT OF LIFE- AND DEATH-STYLES*

To draw this discussion to a close, two primary concepts that seem to be central to the debate must be considered. Firstly, the issue of consent and ownership, and secondly the alignment of lifestyle and death-style. In both regards, Troyer emphasises the crux of the key issue surrounding the discussion within this chapter, namely: 'Who actually *owns* necro-waste?', and therefore, who decides what should be done with it (Troyer 2016, p. 59)?

As with the contemporary practices of necro-waste dispersal in the UK discussed in this chapter, the additional opportunities for necro-waste dispersal that are afforded by AH would require appropriate consent to be granted to allow the practices to occur. But how should this be approached? Interestingly, in the case of the contemporary necro-waste practices that are associated with cremation, consent must be gained for the collection of metallic residues to be recycled, however, the same does not appear to be true for the process of cremation heat reclamation to occur. This is striking and brings us back to the debate concerning the 'human' status of necro-waste. As Rumble et al. underscore, the 'fuel for burning a human body comes only in part from the gas burners and from the wood of the coffin; it also comes substantially from the body's own fat. Thus, recycling the heat produced in cremation entails burning the dead's fat to warm the living' (Rumble et al. 2014, p. 248). Despite this, crematoria emphasise that the heat reclaimed is *not* directly sourced from the dead body, but rather from the process of mercury abatement. Perhaps this de-humanises the necro-waste to such an extent that it is not deemed necessary to obtain consent from the applicant for cremation, or perhaps the sheer impossibility to do anything

other than dispose of or disperse the waste makes it acceptable. Clearly, unlike the metallic residues from the body, heat cannot be collected and returned to kin, and moreover individual cremation heat cannot be reclaimed. Nonetheless, in light of the issues sketched in this chapter regarding consent, perhaps this practice should also be made explicit to applicants for cremation, just as metallic residue recycling is. Contemporary practice in the UK suggests that this need not be the case, which further highlights the complexity of the issues surrounding the disposal and dispersal of necro-waste.

Regarding the continuity of lifestyle in death-style, arguably, the act of post-mortem organ donation is fundamentally emblematic of the alignment of the two. The act of organ donation is not only of interest for demonstrating how life and death values can align but, moreover, for highlighting issues surrounding the classification of meaning. The notion of life- and death-style alignment and issues of classification are both discussed here. As has been emphasised throughout this chapter, it seems that organs removed from the dead body retain 'human' and life-giving status. As such, while the practice of post-mortem organ donation has acted as a helpful comparison point for the discussion concerning the dispersal of necro-waste in this chapter, it seems that there is a distinct difference between post-mortem organ donation and artificial device donation. This difference, however, should only make the practice of artificial device donation more acceptable, since, I argue, the artificial device does not retain 'human' status. This is because an artificial device *is* an object. Certainly, it may have been life-giving, but as an inorganic, implanted material, which does not disintegrate with the body by any means of corpse disposal, such material fundamentally becomes waste. Therefore, in an age framed by critical ecological concern, artificial device donation becomes a collective act of life- and death-style alignment, because, in the guise of pragmatic ecology, such 'waste' should be sorted and appropriately recycled. This alignment can also be achieved by other means of dispersing necro-waste, as highlighted in the case of Dunkfield Crematorium. In a media article concerning Dunkfield's plans to install heat reclamation technology, the Town Council's Environment Chief stresses that the crematorium could simply 'waste' heat by allowing it to go 'up the chimney' by installing 'the mercury abatement equipment and nothing else', but the Chief argues that this act would not go far enough because 'in this day and age we all have to look at reducing our carbon footprint' (Manchester Evening News 2007). This appeal for the plans to be accepted by the public accentuates the notion of collective life- and death-style alignment in an age of environmental concern.

Returning to the notion of consent to re-use such materials, perhaps with AH, there could be multiple options provided for consent decisions. For instance, the applicant for AH could be given the option for any inorganic materials to be recycled and repurposed, as presently occurs following cremation, and additionally, given the option for implants, such as artificial hips, to be re-used in the medical setting for others if they are deemed to be in a suitable condition. An additional means of gaining consent could be achieved through the signing of an 'device advance directive' (Kirkpatrick et al. 2007) either at the time of implantation or in end of life funeral planning. With the latter possibility, at the present stage of the innovation, it seems that the donation of implants would need to be done in a charitable way, rather than by means which would enable funeral organisations to profiteer from the residues of the dead. Perhaps inspiration could be taken from the existing pacemaker donation schemes – which donate refurbished pacemaker devices to less affluent countries – and a similar practice could be adopted for the donation of appropriate inorganic materials that survive the AH process. Moreover, perhaps all that would be required is an 'opt-out' system concerning the destiny of inorganic materials from the body, as is the case for the contemporary practice of post-mortem organ donation in the UK. In this way, unless one opts-out

of the scheme, all inorganic materials following the AH process could be considered for re-use, and if the materials were deemed to be unsuitable then the materials could be recycled, as currently happens following cremation. With the appropriate consent granted, in the contemporary age of environmental concern in which death-style increasingly reflects lifestyle, it appears that the dispersal of necro-waste is an acceptable practice when it is done in a way that contributes to the facilitation of sustainable practices and charitable gift-giving. Hence, thus far, this thesis has shown that both AH and its associated necro-waste dispersal practices are likely to be embraced by Britons in accordance with popular worldviews and environmental concern. This is particularly because both AH and the solid, creative, and green necro-waste dispersal practices discussed are fundamentally framed by the discourse of pragmatic ecology. With the environmental discourse continuing to gain impetus, the decision between 'waste' or 'recycle' is increasingly likely to fall with the latter option, even in the funerary context. However, an appropriate educational narrative must be developed for the adoption of both AH and necro-waste dispersal practices to become widespread as innovative practices continue to be developed. With all this considered, the following chapter discusses the 'exposure' of the British population to funerary innovations in recent years to establish how funerary practices are popularly understood in the British context and therefore informs how both contemporary and innovative practices may be adopted.

# VI

# BRITISH POPULAR AWARENESS OF FUNERARY INNOVATION

Having laid the sociocultural, historical, and theoretical background that underpins the prospective offering of AH and its adoption in the British context, this chapter finally considers how the British public are currently 'exposed' to funerary innovations in order to assess the current level of popular awareness of funerary activities. Situated within this context, the chapter frames how AH and its associated necro-waste practices may be presented in the UK. Since this thesis was written before AH was introduced in the UK, it is required to take a speculative approach in many ways. It therefore focuses on funeral industry insights, the worldview landscape of contemporary Britain, and prevalent socio-political concerns in relation to environmental funerary innovations to inform its analysis, rather than direct interaction with members of the British public concerning their opinions. As such, this chapter considers the influence of popular culture, public education and accessibility of information, and the media on public awareness of funerary innovation in contemporary Britain. Three case studies take primacy of place in this chapter: (i) an exploration of public awareness and education of contemporary funerary choices in Britain; (ii) analysis of British media articles discussing AH, with particular focus on the influence of the Sandwell Council case and the reporting of Archbishop Desmond Tutu's funeral; (iii) a discussion concerning the influence of popular culture in the form of a *Years and Years* episode featuring AH. Together, these case studies seek to depict how contemporary funerary practices are popularly understood (and to what extent) in the British context.

## PUBLIC EDUCATION AND ACCESSIBILITY OF INFORMATION

The following sections first reflect on how the British public learn about contemporary funeral industry offerings, considers the role of the 'consumer' within the British funeral industry, and asks what level of 'consumer' understanding of the generic funeral market is prevalent in the UK. Discussion then turns to the more specific exploration of the level of public knowledge and education of sustainable funerary offerings in the UK. The discussion primarily posits these issues within the frame of funeral planning, both in the case of 'pre-need' and 'at-need'[135] requirements.

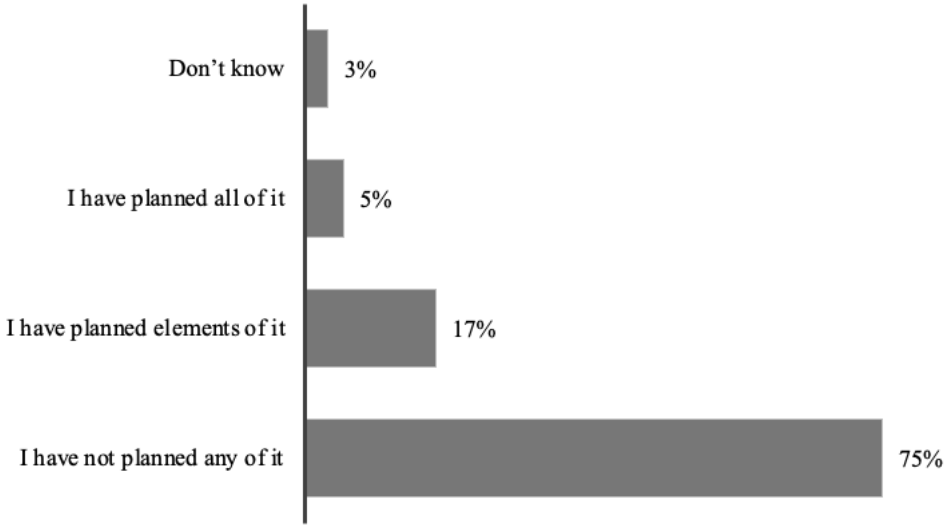
### *FUNERAL PLANNING IN THE UK*

Literature concerning the nature of funeral planning and the form of engagement that occurs between funeral industry 'providers' and funeral industry 'consumers' in the UK is sparse. This is most clearly demonstrated by the fact that a literature search for 'funeral planning' and 'funeral wishes' elicited no academic articles specifically concerning the topic. As such, it is near impossible to concretely say how the vast majority of the British public learn about the funeral options that are available to them. Nonetheless, some insight can be gained regarding the levels of consumer knowledge of and engagement with the British funeral industry through scrutiny of various

[135] The use of the term 'pre-need' refers to making funeral arrangements well in advance of anticipated death, whereas 'at-need' refers to funeral arrangements that are made after a death has occurred.

survey findings. Moreover, it must be acknowledged that some level of popular understanding will be sourced directly from the personal experience of attending funerals. Though perhaps obvious, it is necessary to underscore that ultimately, even when an individual has enacted a pre-paid funeral plan and their funeral wishes were fully known, it is someone other than the person who made the wishes that enacts them on their behalf. Therefore, the nature of the funeral industry makes it quite distinct from other industries within which consumers make similar high-cost purchases. Perhaps the clearest comparison is the purchase of a wedding compared with a funeral and the role, therefore, of a wedding planner compared with a funeral director. Both are high-cost purchases of services that 'enable' significant life events, yet it is widely acknowledged that funeral planning is not treated in the same way as wedding planning is, even though a wedding, like a funeral, is likely only to be planned once or twice in one's lifetime. Perhaps the key difference in the desire to plan is rooted in the attendance (or lack of) at the event in question. This nuance is arguably evidenced both in the increased desire for direct cremation in the UK for a 'no fuss' funeral (SunLife 2022) and in the motivations that drive the choice of natural-woodland burial for some who express that they do not want to 'burden' their kin by leaving them a grave to tend to (see Davies and Rumble 2012, pp. 73-76; pp. 81-83). However, given the overwhelming lack of formal advanced funeral planning in the British context, the desire to have 'no fuss' cannot be cited as the reason for this trend. Despite a gap in academic literature concerning funeral planning in the UK, charitable events including 'Free Wills Month'[136] and 'Dying Matters Awareness Week'[137] highlight the need for educational 'death literacy'[138] in the British context.

Table 2. 'Have you planned all or any of your funeral?' (YouGov 2022b).
YouGov data from survey of 3,749 British adults, conducted on 10 October 2022.

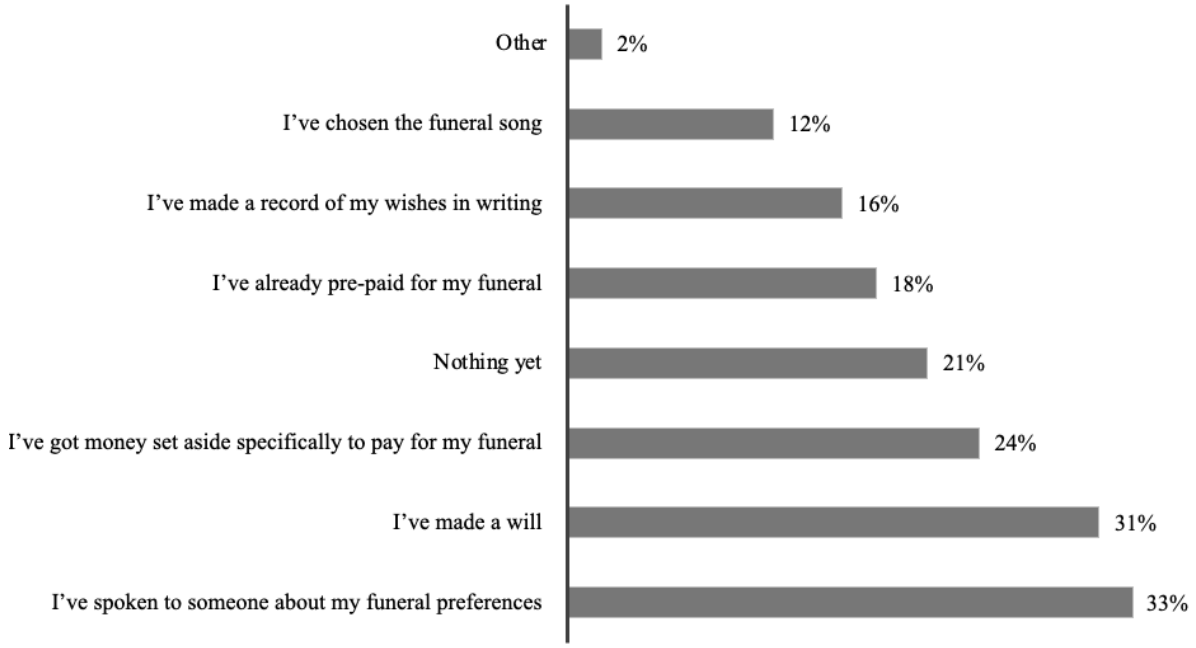



Research conducted in 2016 found that just 6 percent of adults in the UK had a pre-paid funeral plan, with the largest proportion of the population (13 percent) who had taken out a funeral plan found to be those aged over 55-years-old (Funeral Guide 2016). Moreover, a survey conducted by YouGov in 2022 found that some 75 percent of British adults have not planned any of their funeral, only 5 percent reported that they have planned their funeral in its entirety and 17 percent reported that they have planned elements of their funeral (see Table 2 above, YouGov

[136] See: https://freewillsmonth.org.uk/.
[137] See: https://www.hospiceuk.org/our-campaigns/dying-matters.
[138] Noonan et al. (2016) define death literacy 'as a set of knowledge and skills that make it possible to gain access to, understand, and act upon end-of-life and death care options.'

2022b). The data in Table 3 illustrate SunLife's findings concerning how, if at all, those surveyed for the *Cost of Dying Report* had made plans for their own funeral. It is notable in all the data considered that even in the older age bracket, the proportion of British people who have *not* planned their funeral outweighs those who *have* planned their funeral quite substantially. For example, YouGov's findings show that while some 14 percent of those aged over 65-years-old reported to have planned their funeral and 29 percent reported to have planned elements, some 55 percent had not planned *any* of their funeral arrangements (YouGov 2022b). Comparatively, while some 60 percent of British adults report that they do not have a will, 75 percent of those aged 65-years-old and above do (YouGov 2022a). In this regard, will-writing suggests evidence of some forethought concerning end of life matters, but not necessarily about funeral wishes. Hence, with YouGov's (2022a) findings that under two fifths (38 percent) and SunLife's (2023) findings that less than one third (31 percent) of the British population report to have a will, formal pre-planning for the end of life remains relatively uncommon in the British context.

Table 3. 'How people are planning for their own funeral' (SunLife 2023).
SunLife data from survey of 1,508 adults who had been involved in organising a funeral over the past four years in the UK, conducted June to July 2022.




## *BRITISH POPULAR AWARENESS OF FUNERARY OPTIONS*

In recent years, then, it has been increasingly acknowledged that consumer awareness of British funeral industry activities is low, especially when compared with other similar high-cost purchases, such as the purchase of a new kitchen or car. Some have previously theorised this as the result of death taboo, but more potent is the fact that funerals are not frequently arranged in one's lifetime. As Howarth notes, organising a funeral 'is something most people in Western societies are rarely required to do' (Howarth 2007, p. 245). Hence, the CMA importantly stresses that 'a funeral is a high-cost purchase which, for many people, has not been made before, and for others only once or twice' (The Competition and Markets Authority 2020, p. 85). Consequently, 'levels of consumer knowledge of the funerals industry is low and their knowledge of how to arrange a funeral broad and relatively

vague' (The Competition and Markets Authority 2019, p. 33). Given the findings above concerning pre-planning, it is plausible to suggest that the vast majority of British funerals are presently planned at the time of need. This adds complicated dynamics to the nature of the funeral arrangement process, as noted by the CMA, because those making the decisions are in a vulnerable position. While it is not the aim of this thesis to explore the precise nature of funeral planning arrangements within the British context, a consideration of how information is disseminated from the funeral industry to funeral industry consumers lays important foundations for the exploration of how new funerary offerings may be presented.

The first means of public funerary education to explore is located in the role of the funeral director. This is because, as Howarth notes, it is 'considered normal, and indeed expected, that bereaved people will turn to the funeral director' to organise the funeral and 'provide information' (Howarth 2007, p. 245). Engagements with British funeral directors who I have met at various industry events during the course of developing this thesis have framed the role of the funeral director as an 'enabler' and 'educator'. For example, one delegate at the NAFD Summer School 2022 commented to me, 'we're educated, we're in a position to give people options, not to push one idea over another […] we're here to give the choices and then hopefully give that family the comfort that they have made the right choice for their loved one'. Nonetheless, as AH becomes a normative funerary option in the UK, fundamental changes to the basic questions asked will be necessary and long-rehearsed discussions will have to change in ways that will likely be subjective to each funeral director. In order to better understand what funeral planning involves in the British context, fieldwork was undertaken at a local funeral director's premises. While plentiful insight was gained in the field in the USA, despite many similarities between the USA and UK contexts, there are vast differences, particularly sourced in the way that the funeral industries respectively function as professional entities. As such, I arranged to visit a funeral director's premises in the North East of England to discuss a typical funeral planning meeting and witness one first-hand. Engaging with even the most basic elements of funeral planning that are routinely considered when working through the funeral director's funeral arrangement form, it was apparent that the options for disposal will have to widen, even if AH is considered a form of cremation. To clarify, for example, if AH is considered a form of cremation, then the additional question of what *type* of cremation would need to be asked, as is the case at funeral homes in the USA who presently offer AH. Alternatively, if AH is offered as a separate option, then this would also have to be added to the questioning: 'Would you prefer burial, cremation or [insert funeral director's term deemed appropriate for AH]?'.

Ultimately, in order for the public to be educated on the availability of different funerary choices, the funeral industry ought to be the primary source of this information dissemination. However, at present, the depth of the education that is provided to funeral consumers by British funeral industry providers is questionable. As already discussed, inevitably, 'the people purchasing a funeral are often doing so for the first time or only have limited experience of doing so' and thus 'levels of consumer knowledge of the funerals industry is low' (The Competition and Markets Authority 2019, p. 33). The low level of consumer understanding is exemplified by the findings of research conducted by Trajectory on behalf of Dignity, which found that 'most consumers do not perceive there to be a wide range of choice available, and see funeral directors as offering a consistent level of service' (Johnson et al. 2018, p. 7). I argue that this is largely due to the players who have control over the narrative: the funeral industry itself. As Fletcher and McGowan argue, 'consumer choice' within the British funeral industry 'remains largely shaped by businesses, firms, and industry organisations with clear vested interests in profitability' (Fletcher and McGowan 2021, p. 252). This has been reflected in the way that funeral options have been

advertised, if at all, or 'sold' to consumers, which ultimately provides the basis for popular exposure to funerary options. Concerning innovative and sustainable funerary options, it is apparent that, at present, unless the individual planning a funeral makes an expressed effort to explore such options, information regarding how to make a funeral more environmentally friendly is not straightforward to find. This finding is discussed further in the following section, 'Public Education of Sustainable Funerary Offerings'. Indeed, some funeral directors may not offer such options to their clients.

Regarding other methods for public funerary education, a second means to consider is the role of the internet. Interestingly, though this finding should be taken with immense caution, the CMA found that only 4 percent of their consumer survey respondents 'spontaneously said they searched online using a search engine/browser to find out about the funeral director they used' (The Competition and Markets Authority 2019, p. 36). I suspect that this will change dramatically in the future, with the internet acting as the primary source of information for many in contemporary Britain. To emphasise, comparatively, in 2020, some 81 percent of British people reported to have used the internet to find information about goods and services within the last three months of the date of asking (Office for National Statistics 2020a). Moreover, some 89 percent of British people reportedly use the internet daily. When this statistic is broken down by age, 100 percent of 16- to 34-year-olds reportedly use the internet daily, suggesting that, perhaps, research when making funerary choices is much more likely to be conducted online in the future (Office for National Statistics 2020a). The CMA also notes evidence of growth in the use of the internet within the funeral market, suggesting that internet use 'will become more prevalent, especially as younger consumers (who have an existing propensity to transact online compared with their older peers) mature' (The Competition and Markets Authority 2020, p. 124). Furthermore, because the CMA's findings are based on the experience of those arranging a funeral at need, the CMA supposes that consumers 'may be more likely to be receptive to information way ahead of the point of need: for example, the range of different types of funeral available, the cost implications of different choices, the options available and the range of choice for each option' (The Competition and Markets Authority 2018, p. 61).

Nonetheless, the nature of the funeral arrangement process does mean that an element of 'tradition' is maintained and therefore many consumers choose whichever funeral director has previously been used by their family. As the CMA notes in its findings, 74 percent of respondents had not used the internet 'because the funeral director they were going to use was already known to them' (The Competition and Markets Authority 2019, p. 36). However, it is necessary to contextualise the CMA's findings concerning internet usage in funeral planning with the fact that at the time of the publication of the CMA reports (2018, 2019, 2020), those within the funeral industry were under no obligation to publish their pricing anywhere. As such, if consumers had conducted online searches to aid their funeral planning during the time period that the CMA's research was conducted, it would likely have proven to be quite a redundant task for consumers because there would have been very little information for consumers to find and compare services. Hence, given that one of the outcomes of the CMA's investigation was a requirement for funeral directors and crematoria to display their basic costs online, alongside further regulation of pre-paid funeral plans, these actions may prompt further consumer scrutiny online moving forwards, since this information should be far more easily accessible than it was previously. Despite these changes, the CMA alludes to the need for a 'culture' shift to engage the public with such information.

Hence, key to the adoption of any funerary practice is education, but this is especially true for any new funerary innovations. This was demonstrated in the findings of the fieldwork conducted in Minnesota, USA, where AH has been adopted (see Chapter 4 for a detailed account of the findings). Furthermore, the importance of the provision of accessible information to facilitate the adoption of 'alternative' funerary options is stressed in unpublished research conducted by Trajectory on behalf of Simplicity Cremations. The research found that a 'lack of knowledge and awareness of the available options' is likely to 'hold organisers back from straying too far away from a traditional funeral' in the UK (Trajectory 2019, p. 22). Additionally, the report notes that those organising a funeral 'might be impeded not by a lack of knowledge but by a lack of information' and therefore, 'readily available information about alternatives could be one factor holding consumers back' from choosing alternative funerary options (Trajectory 2019, p. 24). The need for the provision of accessible information to educate the consumer is especially true for environmentally friendly framed funerary innovations because, in the British context, information concerning the environmental impact of funerary activities is not widespread, as Chapter 2 argued. This is further underscored by research conducted by Trajectory on behalf of Precision Organic Limited, outlined in Chapter 2, which found that over half of respondents were 'not at all' aware that cremation is damaging to the environment and some three-fifths were 'not at all' aware that scattered and buried cremated remains can be harmful to the ground (Trajectory 2021). As already stressed, ultimately, in order for the British public to be educated on funerary matters, the funeral industry ought to be the primary educator, yet it is apparent that the availability of educational materials that have been produced by the funeral industry is sparse. A survey of British funeral industry websites found that they are rarely educational in the sense of explaining *what* various funeral practices *involve*, rather they are simply stated by name as *options* for people to choose from. The following sections explore some of the current opportunities facilitated by the British funeral industry for public funerary education using digital mediums, with reference to three case studies: (i) the websites of Dignity and the Co-op; (ii) JC Atkinson's Greener Goodbyes App; (iii) Resomation Limited's online presence.

According to the CMA, Dignity and Co-operative Funeralcare are the two largest providers of funeral services in the UK (The Competition and Markets Authority 2020). Accordingly, in seeking to gain a nationally representative example of public funerary education, I surveyed their nationwide websites to establish the availability of (i) sustainable funerary offerings and (ii) information about the environmental impact of funerals. Using the Co-op's 'Online Funeral Planner', I discovered that the Co-op does not appear to offer natural-woodland burial for online arrangements, however, there is a substantial offering of 'natural' and 'fair trade' coffins available online. When delving deeper into the help and support section of the Co-op's website, it is stipulated that one should 'speak to your local funeral director about planning a green funeral' (Co-op n.d.-a). Dignity does not offer an online funeral planning service like the Co-op's, nonetheless, Dignity has published some content on its website regarding 'Arranging a Funeral', with some guides relating to 'green' choices, including 'Your Complete Guide to Eco-Friendly Funerals', 'Woodland Burials and Green Funerals', and 'What is an Eco Burial?'. However, when specifically looking to arrange a natural-woodland burial through Dignity, their 'complete' guide names only ten 'eco-friendly burial sites' as a 'snapshot of some of the UK's natural burial sites by region' (Dignity n.d.-c, p. 4) – it is not clear in the guide whether these are the only sites Dignity has access to. As in the case of Dignity, the Co-op has published a handful of articles concerning how to make a funeral more eco-friendly, including 'future'

– ‘in the next few decades’ – options such as AH and NOR (Co-op n.d.-b). In both cases, although information about ‘green’ funerals is available on the organisations’ websites, my research suggests that ‘green’ funeral choices would need to be sought out when discussing options with a funeral director, rather than instinctively offered by funeral providers in their ‘standard’ packages. As nationwide funeral directors, an assessment of the information provided by Dignity and the Co-op acts as a helpful case study for a generalised picture of British funerary offerings and published information on them. While assessing independent funeral directors’ websites adds further insight, this produces a localised rather than generalised representation of practice in the UK, the latter of which is achieved by the chosen research method.

As the environmental impact of funerary activities increasingly comes to the fore, some more extensive efforts have been made within the funeral industry to expand public knowledge of sustainable funerary choices. One such example is JC Atkinson’s ‘Greener Goodbyes’[139] app. In 2021, UK coffin company JC Atkinson launched the interactive web-based app, ‘Greener Goodbyes’, to inform consumer decision making regarding funerary choices.

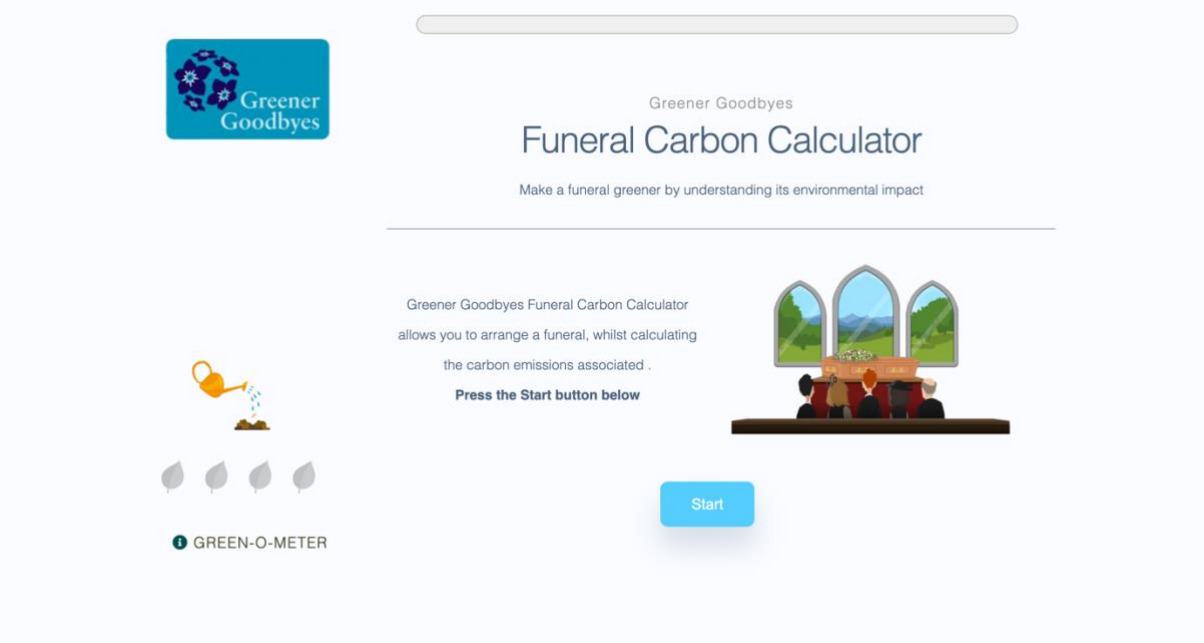



Figure 12. Greener Goodbyes ‘Funeral Carbon Calculator’, accessible via: https://www.greenergoodbyes.co.uk/offsettingarrangement/.

The ‘Funeral Carbon Calculator’ (see Figure 12) allows the user to input their desired funerary choices through a series of multiple-choice questions. For example, the first question asks, ‘What type of funeral?’, and provides the options of ‘flame cremation’, ‘cemetery burial’, ‘woodland burial’, and ‘water cremation [not available in UK at present]’ (Greener Goodbyes n.d). The questions are broken down into three sections: (i) ‘type of funeral’ – which concerns the chosen disposal method and desired service, and includes questions about the funeral location, type of hearse, and number of attendees; (ii) ‘care of the body’ – this section includes questions regarding whether a viewing is required and the type of coffin desired; (iii) ‘post-funeral activities’ (e.g., wake and memorials) – this section includes questions regarding whether a funeral reception is required, the number of attendees and catering required, and what physical memorial(s) is required. At the conclusion of the questions, the app provides the

[139] See: https://www.greenergoodbyes.co.uk/.

'results' of the $CO_2$ emissions of the funeral arranged and allows for the user to go back through the questions to amend their answers in order to lower this impact or add off-setting options, if desired. Not only does the interactive tool indicate how 'green' a particular choice is on its 'green-o-meter',[140] but a short description of each option is also provided. In this way, the interactive tool educates both on the available options and their relative environmental impacts. The interactive tool has the capacity to feature on all funeral planning websites so that individuals can make informed choices without the need for extensive research. The feature of this application, or something of a similar kind, on all funeral planning websites would be significant for public education of both funerary offerings and their associated environmental impacts.

Discussing diversity and choice in the funeral industry, Davies and Rumble argue that the 'traditional monopoly held by funeral directors and 'traditional' funeral suppliers and professionals' has been challenged by 'internet possibilities' (Davies and Rumble 2012, p. 58). This is particularly noteworthy because they argue that 'the 'green' funeral sector creates far more sophisticated advertising outputs than the 'traditional' funeral industry' (Davies and Rumble 2012, p. 58). Looking practically to examples concerning AH, the world's two leading suppliers of AH technology, Resomation Limited and Bio-Response Solutions, both have a dominant public presence through their webpages and social media. In the case of Resomation Limited, its online presence spans Facebook, Twitter, Instagram, LinkedIn, TikTok, and its internationally accessible website. Hence, the possible level of public engagement with Resomation's educational content is significant. The case of Resomation Limited's online presence elicits some interesting points for analysis. Personal communication with Resomation Limited's Marketing Executive, Kirsty Oliver, revealed that Resomation's Facebook 'audience' is heavily saturated by those falling within Millennial[141] and Generation X[142] age brackets and has a female bias – 66.6 percent of Resomation's followers are women, and 33.4 percent are men (Oliver 2022). Whether this is representative of those who are most engaged with researching funerary choices in the UK generally is near impossible to say, since I only have data for one company. Furthermore, it is necessary to note that Resomation's audience is not only UK based: while some 59 percent of Resomation's Facebook audience is based in the UK, the remaining 41 percent is intercontinental. Nevertheless, the recent statistics on funeral planning published by YouGov align with this trend. Hence, with these insights coupled, it is plausible to suggest that perhaps British women have thought formally about their funeral wishes more than British men have. The YouGov findings show that some 6 percent of women reported to have planned their funeral in full, versus 4 percent of men, and some 20 percent of women reported to have planned elements of their funeral, versus 14 percent of men (YouGov 2022b). The differential in the survey data is quite minimal, however, overall, just over 1 in 4 women have planned some or all of their funeral, versus under 1 in 5 men. In the case of Resomation Limited's audience, approximately 2 in 3 people following its page are women, versus 1 in 3 men, hence the differential in gendered interest is greater in Resomation's audience.

Moreover, aside from the internet, Davies and Rumble draw attention to the possibilities for advertisement in 'non-traditional industry outlets' that are enabled by 'green' funeral choices. For example, they note that natural-woodland burial providers 'take their advertising' to 'outlets such as country shows and 'green' exhibitions' (Davies and Rumble 2012, p. 58). During my USA fieldwork, Dean Fisher explained that he planned to get a

[140] The 'green-o-meter' is accompanied by a short descriptor: 'This illustration is based on the average funeral producing 2/3 tonnes of COC2e. The larger the tree or the more leaf icons, the better the funeral options chosen.' (Greener Goodbyes n.d).
[141] 'Millennials' is a term generally used to refer to the generation born between 1981 and 1996.
[142] 'Generation X' is a term generally used to refer to the generation born between 1965 and 1980.

stand at the local farmers' market to hand out leaflets about his AH services at Ballard-Sunder. Fisher explained that his aim in doing this was rooted in the idea that those attending such events are generally seeking to live a healthy and eco-friendly life, and so they may be inclined to consider thinking about death in the same way. Fisher expressed that he planned to hand out leaflets to passers-by and explain that if this was not for them, then they should keep the leaflet and pass it on to somebody who they thought might be interested: the main aim being to raise awareness of the availability of the AH process and educate on its environmental credentials (Fisher 2022a). Hence, this notion that Davies and Rumble allude to, namely, that there has been a move away from more 'traditional' modes of educating on funerary choices in the case of the 'green funeral sector' is evident in the innovation of AH in the USA context. Clearly, the possibilities for public education of funerary choices are diverse and these opportunities need to be more heavily utilised in the British context in order to enable better death literacy and, fundamentally, facilitate further choice for the British public at the end of life. It is worth pondering whether JC Atkinson's interactive 'Greener Goodbyes' web-based app is the way forward, or whether informational blogs about 'green' funerals on the websites of the likes of Dignity and the Co-op will suffice. Moreover, whether the funeral industry's focus for the development of educational content should be on funeral director's websites, where pre-planning research is more likely to be conducted, or whether social media will have a more permeating influence on changing normative funerary practices in the UK. Stretching beyond the direct public funerary education facilitated by the funeral industry explored in this section, discussion now turns to the more discreet possibility for the education of the British public that is enabled in the form of media exposure.

## EXPOSURE VIA MEDIA COVERAGE

One means by which we are, often unconsciously, exposed to new concepts is through their portrayal in the media. To demonstrate the influence of such exposure in relation to funerary innovation, two case studies of media coverage of AH take primacy of place in this section: (i) media coverage of Archbishop Desmond Tutu's choice of AH; and (ii) media coverage of Sandwell Council's attempted Resomator installation.

### *ARCHBISHOP DESMOND TUTU'S CHOICE OF AH*

On 26 December 2021, Archbishop Desmond Tutu died, and his funeral took place on 1 January 2022 at St George's Cathedral, Cape Town, South Africa. On 31 December 2021, news surfaced that Tutu had chosen AH in his funeral wishes, and the choice of AH was reported to have been an aspiration of Tutu's as an 'eco-warrior' (BBC 2021). The Archbishop Tutu IP Trust and the Desmond & Leah Tutu Legacy Foundation confirmed in a statement that Tutu 'wanted no ostentatiousness or lavish spending [for his funeral]. He asked that the coffin be the cheapest available and that a bouquet of carnations from his family be the only flowers in the cathedral.' Following Tutu's death, news outlets initially reported that Tutu would be 'privately cremated' and his ashes interred at St George's Cathedral, as detailed by information published by the Associated Press on 27 December 2021: 'Saturday, Jan. 1:- Requiem Mass at St. George's Cathedral after which Tutu's body will be cremated and his ashes interred at the cathedral's mausoleum, according to his wishes.' (The Associated Press 2021). In contrast to the initial reporting, it was later revealed that Tutu's 'cremation' would not be a conventional flame cremation, but rather he would be 'cremated' by a process of alkaline hydrolysis, referred to as 'aquamation'. The subsequent media coverage of Tutu's choice launched AH into the public sphere in a way that had not happened before, with

hundreds of media articles published internationally within days of the news first being announced. Tutu's choice is a significant case study for this thesis not only because I argue that his choice is the most significant 'statement' on AH from any religious authority to date (see Chapter 3) but, moreover, because of the public attention and subsequent education of AH Tutu's choice elicited, dubbed as the 'Tutu effect'.

Interestingly, the South African context is paralleled with the British context in that there currently exist no legal provisions regarding the practice of AH, albeit the practice is not explicitly illegal. At the time of Tutu's death, there was one 'aquamation' facility in South Africa at AVBOB in Maitland, Cape Town (AVBOB n.d.). It is not concretely known when Tutu first learned of the AH process and the availability of the practice in South Africa, but AVBOB opened its AH facility in Cape Town in November 2019 and thus AH has been a funerary option in South Africa for over three years. The *Sunday Telegraph* reports that planning for Tutu's funeral began some six years before his death (Thornycroft 2022), at which point, AH was not available in South Africa. Moreover, Tutu's daughter, Mpho Andrea Tutu van Furth, was interviewed for a Dutch programme 'De Kennis van Nu' – 'The Knowledge of Now' (NPO 2022) – which shed some light on the motivating factors that influenced Tutu's choice, but not on how and when Tutu learned of AH as a funerary option. Mpho Andrea Tutu van Furth explained:

> 'My parents chose aquamation, which I, and many people around the world, had no idea what that was. And so, I think we all crashed the internet search engine trying to find out what the process was. My father had very high regard for all of creation and was very committed to the cause of green living, and this was the most green option available.' Mpho Andrea Tutu van Furth (NPO 2022)

Prior to the news breaking regarding Tutu's choice of AH, and beyond it, I collated and analysed media articles published in the UK context concerning AH from 2004 to 2023, with focus primarily on the period of 2007 to 2023, when the articles are most heavily saturated. In the British context, more media articles were published following the rejection of Sandwell Council's application for a Trade Effluent permit for their proposed Resomator installation, discussed subsequently, than were published following the news of Tutu's choice of AH. However, globally, media attention, and therefore popular interest, peaked with the reporting of Tutu's choice. To complement the longitudinal collation and content analysis of media articles discussed in this chapter, data from Google Trends provide further insight. Between 1 January 2011 and 1 January 2023, the graphs overleaf illustrate that the terms 'alkaline hydrolysis (body disposal)', 'aquamation', and 'water cremation' were searched online the most times world-wide in January 2022, when the news of Tutu's choice of AH broke (see Figure 13). In the UK, the preceding overall spike was recorded in December 2017, when news broke about Sandwell Council's Trade Effluent permit application rejection (see Figure 14). However, when the trend search is refined to the term 'water cremation', the web searches in the UK spiked most significantly in December 2017, followed closely by January 2022 (see Figure 15). 'Aquamation' was included in the search because this is how Tutu's choice was described colloquially, and 'water cremation' was included because the longitudinal analysis of British media articles elicited heavy use of the term 'water cremation' throughout. Experimentation with various terms commonly used to describe AH on Google Trends showed that the three terms used below were searched for online most frequently. The graphs that follow provide a helpful visual depiction of public interest in AH over time. According to Google, the numbers in the graphs 'represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. A score of 0 means there was not enough data for this term.' (Google Trends n.d.).

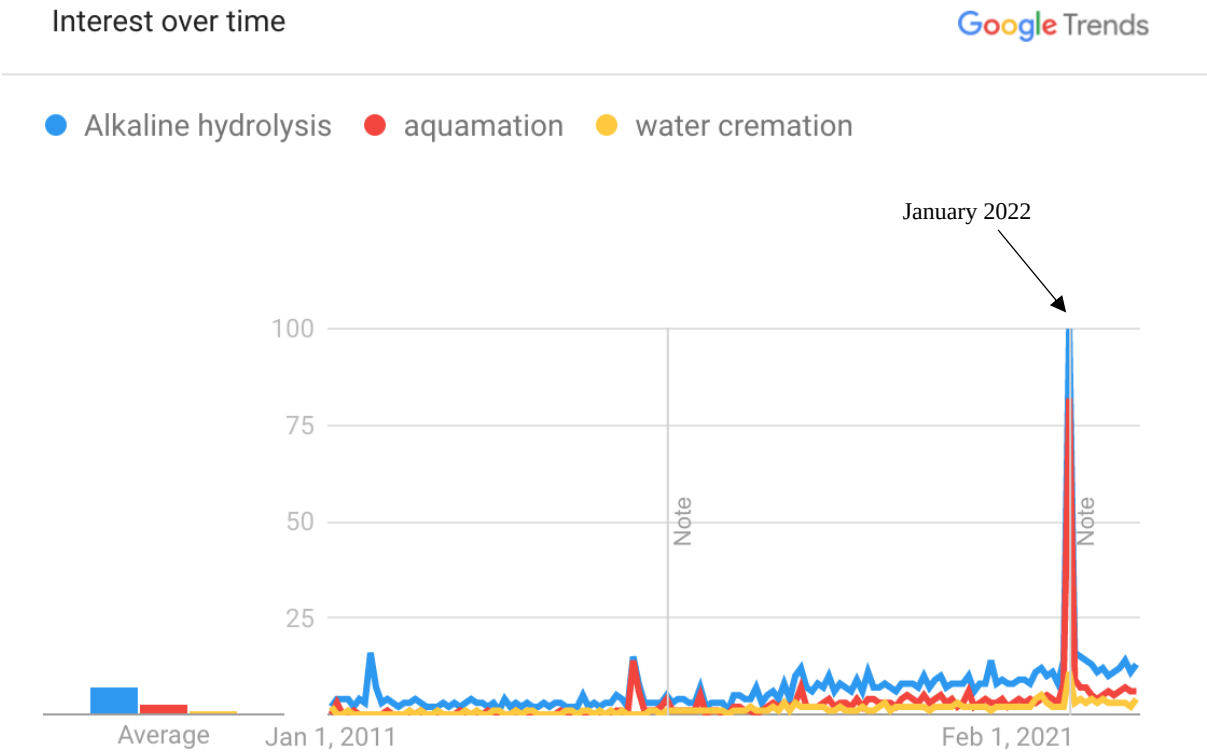



Figure 13. Google Trends data: global web searches for ‘Alkaline hydrolysis’, ‘aquamation’, and ‘water cremation’ between 1 January 2011 and 1 January 2023. Highest peak in January 2022. Data retrieved on 23 February 2023 (Google Trends n.d.).

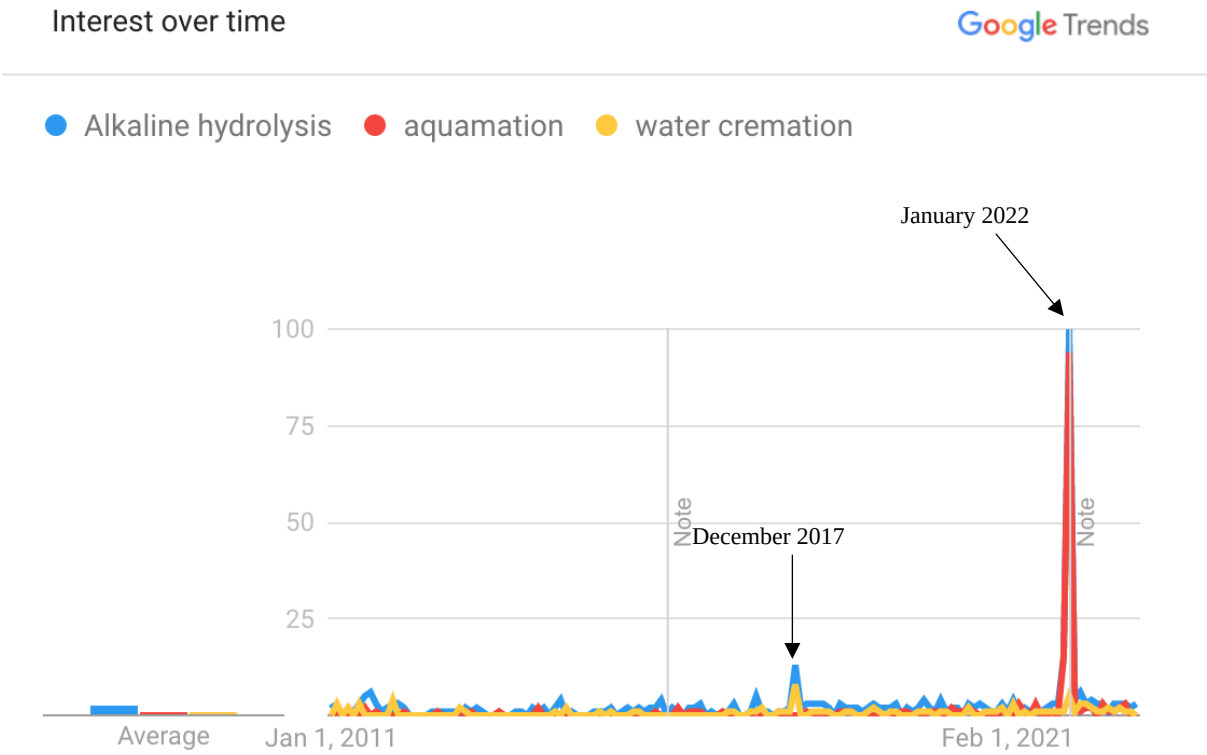



Figure 14. Google Trends data: web searches in the United Kingdom for ‘Alkaline hydrolysis’, ‘aquamation’, and ‘water cremation’ between 1 January 2011 and 1 January 2023. Highest peak in January 2022, followed closely by December 2017. Data retrieved on 23 February 2023 (Google Trends n.d.).

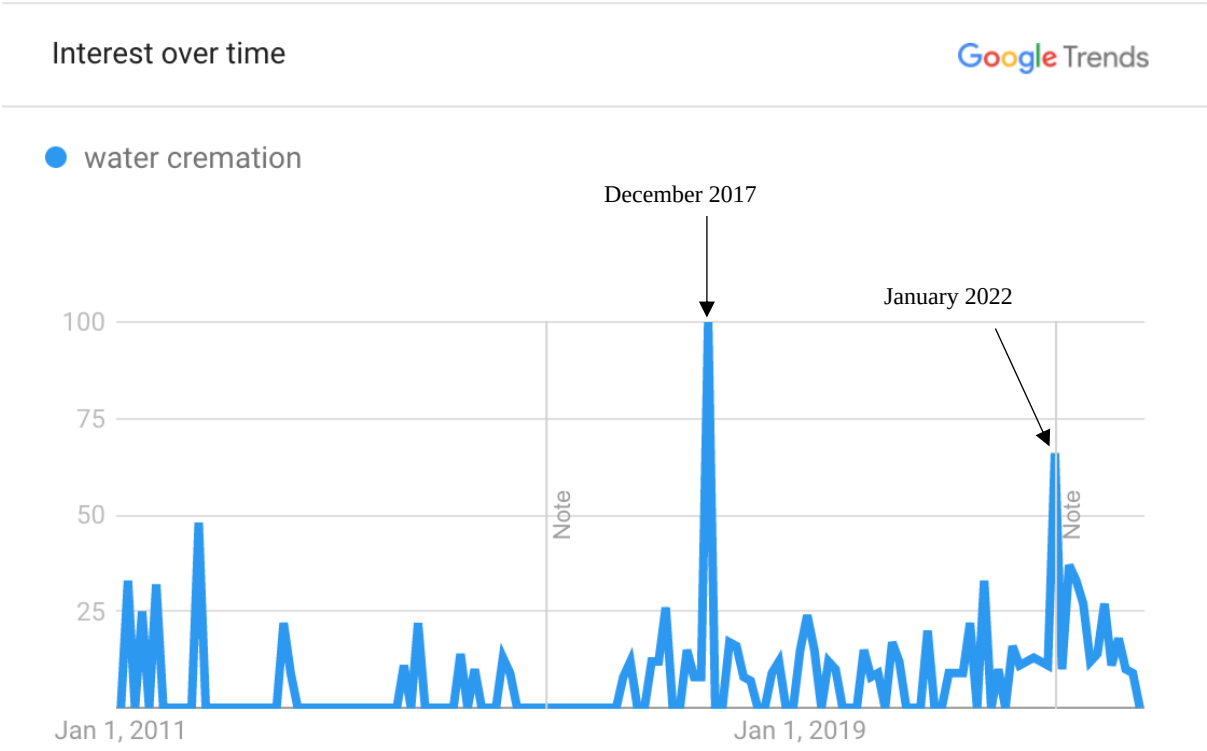



Figure 15. Google Trends data: web searches in the United Kingdom for 'water cremation' between 1 January 2011 and 1 January 2023. Highest peak in December 2017, followed closely by January 2022. Data retrieved on 23 February 2023 (Google Trends n.d.).

### *SANDWELL COUNCIL'S ATTEMPTED RESOMATOR INSTALLATION*

In addition to online web searches, the Sandwell Council case led to perhaps the most media and public attention AH has ever received in the UK. Longitudinal analysis of media databases[143] found that there were over one hundred features of AH in the UK public media between 2007–2021, however brief, and over a third of these features were published in 2017. Scrutiny of media coverage at the time reveals some forty features in print media in the UK in 2017: most potent is the case of December 2017, when 85 percent[144] of these articles were published following the news breaking regarding Sandwell Council's plans. The surge overtly followed the publication of Severn Trent's denial of a Trade Effluent permit to Sandwell Council, which halted the Council's plans to install a Resomator on site by preventing its ability to discharge wastewater from the Resomation AH process (see Chapters 1 and 2 for a full account of the Sandwell Council case and subsequent Resomation Case Study). Interestingly, despite the publication of provocative headlines and countless references to 'flushing' dead bodies 'down the drain', the overwhelming majority of articles published content that is both neutral and factual in nature, with a handful of positively written articles. Perhaps the most positive article published in response to the Sandwell Council case is the overleaf, which states:

[143] Searches were conducted using the media databases Nexis UK and Gale, with key terms including: 'resomation', 'alkaline hydrolysis', 'water cremation', 'aquamation', 'liquid cremation' and refining the search to publications in the United Kingdom, alongside a Google search.
[144] Thirty-four of the forty features in print media in 2017 were published in December 2017.

> ‘The future of death is alkaline hydrolysis, in spite of the UK Water authority announcing “we don’t think the public will like the idea”. Why not? The liquid produced by the process is filtered twice, and is probably cleaner than the stuff that comes out of the tap in London, which must contain traces of cocaine and hormone replacement therapy at the very least.’
>
> ‘Funerals are a melodramatic rip-off, so let’s all raise a glass to the prospect of being flushed quietly down the drain!’ (Street-Porter 2017)

Other articles published in response to the Sandwell Council case have provocative headlines but are accompanied by factual, well-informed, and positively leaning content. Examples include:

> Collins (2017), ‘Have a glass of Grandad! Plans to flush bodies down the drain’
>
> Flynn (2017), ‘Dust to drain: Increasingly popular cremation that DISSOLVES bodies into ash and LIQUID that’s treated through municipal water facilities’

Moreover, some articles concerning the prospect of AH in the British context have provocative headlines but are accompanied by neutral, and perhaps *some* slightly negative leaning, content, for example:

> O’Brien (2017), ‘Council plans to flush dead bodies down the drain in macabre ‘liquid cremation’ plan’
>
> Norton (2017a), ‘The eco-friendly crematorium that wants to flush your loved one down the drain’
>
> O’Keeffe (2010), ‘YOUR LOVED ONES COULD BE GOING DOWN THE DRAIN’

Finally, a very small number of articles have provocative headlines and include equally provocative and negatively leaning content, for example:

> Clarkson (2010), ‘Dead worried about being boiled in a bag when I’m gone’

With the exception of Clarkson’s article, latterly referred to, and a small handful of articles that contain slightly negatively leaning content, the media articles concerning AH published in the British context have largely been neutral and factual in nature, and thus are helpful educational reference points for the British public. Nevertheless, there were no more than ten features of AH in print media during each year considered in the longitudinal analysis, except for in the years 2017, 2022 and 2023; hence, the extent of the opportunity for public education is arguably quite minimal. This is further suggested by the fact that even in the case of the 2017 Sandwell Council surge and the 2022 Tutu surge, which I turn to next for comparative analysis, the media articles have been published within quite concentrated timeframes. For example, while there were some forty features of AH in British media in 2017, some 85 percent of the articles were published in December 2017 and during the following year, there were only four media articles published concerning AH. Likewise, nearly all of the media articles concerning AH published in the UK in 2022 were published in January 2022. Nonetheless, such media coverage facilitates the unique opportunity for the concept of AH to permeate public consciousness because people are much more likely to spontaneously come across a headline in a newspaper than, for example, the Resomation website. Certainly, reading the content of Resomation Limited’s website would arguably be far more of an educational opportunity than reading nearly any of the newspaper articles that have been published on AH to date would be, but the reach is far wider when it comes to popular media.

*THE REPORTING OF THE SANDWELL AND TUTU CASES COMPARED*

As already indicated, there was a significant international surge in the number of media articles that were published discussing the innovation of AH following the news of Archbishop Desmond Tutu's choice of AH in January 2022. The case of the reporting of Tutu's choice is particularly notable because AH became a feature not only of print media, but also headline news programmes and radio broadcasts. Nonetheless, despite this widespread attention, as previously noted, in the case of print media in the British context, the number of reports published in the aftermath of Sandwell Council's Trade Effluent permit rejection outweighs the number of reports concerning AH following Tutu's death. Yet, despite this, it is certainly plausible to argue that the news of Tutu's choice of AH had a more significant impact in contributing to the education of the British public about AH. This is partly because negative headlines, similar to those seen in the 2017 surge, were absent; this absence seems to have been largely due the esteem that was attributed to Tutu. For example, *The Sun's* 2017 headline 'ASHES TO SPLASHES; Body flushed in "water cremation"' (James 2017) became 'REST IN PEACE Desmond Tutu celebrated at funeral and given water cremation as green alternative' (Moyes 2022b) and 'Green farewell to father of a nation; AQUAMATION FOR TUTU' (Moyes 2022a). The content of the reports concerning Tutu's choice of AH largely focus on describing Tutu's life and only make brief comment on his choice of AH. Hence, while content analysis of the articles that were published in 2017 about the Sandwell Council case demonstrates that the vast majority of the articles are neutral and/or positive about AH, when the reporting of the Sandwell Council case is compared with the reporting of Tutu's choice of AH, a distinctive shift away from 'click bait' headlines is noted. Three examples of content produced by the same news outlet, *The Sun*, in 2017 and 2022 provide as direct comparison of the respective content as is possible and illustrate the shift away from 'click bait' headlines and provocative content that Tutu's choice aided. The 2017 example concerns the Sandwell Council case and the two 2022 examples concern Tutu's choice of AH. The introduction to the 2017 article in *The Sun* reads:

> 'PLANS are under way for Britain's first "water cremations" where liquefied human remains are poured down the drain. The process involves the body being broken down by chemicals to give off less pollution than normal cremation. But flushing remains into sewers could prompt what a source called "the yuck factor" from the public.'
>
> 'ASHES TO SPLASHES; Body flushed in "water cremation"' (James 2017)

Contrastingly, briefly summarised, the 2022 articles in *The Sun* read:

> 'ANTI-apartheid hero Archbishop Desmond Tutu was celebrated at his simple eco-friendly funeral yesterday. […] And keeping with his ecowarrior beliefs, his body was aquamated – a greener alternative to cremation using water and chemicals.'
>
> 'Green farewell to father of a nation; AQUAMATION FOR TUTU' (Moyes 2022a)
>
> 'ANTI-apartheid hero Archbishop Desmond Tutu was celebrated at his funeral yesterday – before he was given a water cremation. […] In keeping with his pro-environmental beliefs, Desmond Tutu was given a water cremation after the funeral. […] In keeping with his 'eco-warrior' beliefs he was aquamated – a greener alternative to cremation using water and chemicals which cuts harmful carbon dioxide by up to 90 per cent.'
>
> 'REST IN PEACE Desmond Tutu celebrated at funeral and given water cremation as green alternative' (Moyes 2022b)

While the 2017 article is factually correct in what it details and does draw emphasis on the fact that AH is 'less [polluting] than normal cremation', the references to 'liquefied human remains' being 'poured down the drain' and 'flushed' into 'sewers' overwhelmingly dominate the content of the article. In direct contrast, the accounts detailing Tutu's choice *only* focus on the 'environmental' and 'eco-warrior' nature of the choice of AH and make no references to 'flushing remains into sewers' or the 'yuck factor' of AH. A similar narrative emphasising environmentalism was adopted in local US news reporting of the funeral of Harold Shrimp – the first person in the USA to undergo AH in a commercial funeral setting. In the case of Shrimp, media reports detailed that Shrimp's family saw AH as 'a more environmentally friendly option than cremation and a fitting choice for a progressive-thinking guy who used to gather aluminium cans and cardboard for recycling' (Franko 2011). Perhaps in both the cases of Tutu and Shrimp, the need to act sensitively to the fact that the reports directly corelate to the death of a human being outweighs any media desire to critique the 'new' method of body disposal, thereby forcing such critique to be deemed as inappropriate. While many of the articles, including the two above, largely skim over Tutu's choice of AH, other articles concerning Tutu's choice discuss AH in depth and explain precisely what the AH process is and what it involves, and do so in a neutral and factual manner. Two British media articles in particular stand out for this reason: (i) an article in *The Guardian* entitled 'What is aquamation? The process behind Desmond Tutu's 'green cremation'' (France-Presse 2022), and (ii) an article in *iNews* entitled 'What is aquamation? The 'green' alternative to cremation chosen by Desmond Tutu and the UK rules explained' (Guyoncourt 2022).

Moreover, as previously noted, in addition to the Tutu case, there exist other articles with provocative headlines that are accompanied by balanced, and even positively leaning, accounts of AH beyond the headline. For example, an article in the *Sunday Times*, entitled 'Have a glass of Grandad! Plan to flush bodies down the drain' (Collins 2017), initially describes AH as a process whereby the body is 'liquefied and then flushed down the drain' but follows with a more neutral-factual description of the process. Undoubtedly, the aftermath of both the Sandwell Council and Tutu cases gave AH a significant platform in the public sphere through exposure in the media. Arguably, the 'rejection' element within the Sandwell Council case likely primed media outlets with the opportunity to take a negative stance on the innovation, whereas perhaps Tutu's esteem prohibited such reporting. In this way, while Tutu's esteem cannot be ignored, it does pose the question of whether AH is now perceived as an 'acceptable' practice by British popular media, or if it was only framed in this way because it was Tutu's chosen method of body disposal. In both the Sandwell Council and Tutu cases, AH was given attention in the press that it rarely attracts, which is significant within itself. Moreover, beyond the specific attention AH was given in media articles, the Google Trends data depict that there was a global surge in online web searches following both events which suggests that significant public intrigue regarding AH as a funerary option is evident. A reader's letter in the *Evening Express* entitled 'Tutu intrigue' eloquently summarises this point:

> 'It was of some interest to me to read that Archbishop Tutu was to be "aquamated" – this process being considered environmentally-friendly and straightforward.
>
> Whatever is involved in [t]his process, I am not too sure about, but something tells me we may well hear more about this procedure with so many Greens around nowadays.
>
> I, like many others, have a built-in fear of the word cremation, but this aquamation procedure doesn't sound so bad – how do others feel about it?'
>
> 'Tutu intrigue' (TF 2022)

What is certain is that media articles and their headlines have gradually moved away from the 'shock' factor that previously dominated the reporting of AH, and this has especially been the case in the last few years as innovative funerary practices have become more normative. Consequently, the British media can be described as having a relatively significant role in raising awareness of funerary innovations both by exposing the British public to the concepts and producing accessible educational content on them. Furthermore, the significance of 'celebrity' culture and its dominant role in the media, as discussed in Chapter 3, cannot be ignored. AH only featured so dominantly in the British media in January 2022 *because* the world-famous Archbishop Desmond Tutu died, and so media outlets were compelled to report on his funeral internationally because his death and funeral were deemed as *newsworthy*. Perhaps, by means of comparison, if a local Anglican priest died and chose AH, their choice may be reported by local media outlets, but it almost certainly would not make national or international news. AH has featured periodically in the British media nonetheless, but this 'celebrity' influence has certainly added impetus to its status. Because of the media coverage of their choices, Bowie is dubbed as starting the trend of choosing direct cremation, HRH Prince Philip elucidated the scope for the personalisation of funerals, HM Queen Elizabeth II drew attention to the significance for some in maintaining tradition in funerary ritual, and Archbishop Desmond Tutu demonstrated how it is possible to have an environmental approach in funerary ritual. Perhaps the self-defined environmentalist HRH King Charles III will consider the environment in his future funeral wishes and, if he does, then media reporting of his choices may spur further educational debate. The media's influence on the 'ordinary' thoughts of the population should not be underestimated, particularly in its role in facilitating 'around the dinner table' conversations. As such, Howarth argues that the 'visual, audio and printed news media are a […] significant resource for information and cultural understandings of mortality' (Howarth 2007, p. 110).

## EXPOSURE VIA POPULAR CULTURE

Having explored the role of print media in increasing the exposure and therefore awareness of the British public to funerary innovation, the discussion now turns to the role of audio-visual broadcast media, with a particular focus on television dramas. The role of audio-visual broadcast media for public funerary education can be significant because, as Durkin (2003) highlights, 'death and dying are brought directly into homes via the medium of television'. In the British context, this has been seen most recently in the live streamed footage of Queen Elizabeth II's funeral and the events preceding it, including the procession of the Queen's coffin and its lying-in-state. Principally because the UK experienced a national ten-day period of mourning[145] following the Queen's death, death was constantly in the face of the media and, therefore, the British public, for just short of two weeks. The day of the Queen's funeral was made a bank holiday to enable the British public to watch the funeral, and the funeral was aired live on all major TV channels, with some 32.5 million British people reported to have watched the live coverage. Hence, this media portrayal, though a rarity, indisputably brought death directly into the homes of the British public. In less plainly obvious ways, death is frequently brought into the home through the mediums of soap operas, films, and television series. This section considers what influence the portrayal of death and, more specifically, funerals through such mediums has on educating and/or influencing the British public regarding funerary activities.

[145] 'National Mourning is a period of time for reflection in response to the demise of the Sovereign, or other member of the Royal Family or a very prominent person in national life.' (Cabinet Office 2022).

## *SOAP OPERAS*

Set within the British context, a familiar entry point for this discussion is the popular genre of soap opera. The audio-visual broadcast medium of soap opera is a popular form of entertainment in contemporary society and is largely seen as a 'staple' of British culture, with the UK's longest running televised soap opera, *Coronation Street*, shown in the homes of the British population for over 60 years. Following the lives of a particular group of people, soap opera storylines feature all elements of the 'daily' lives of those portrayed, and consequently, significant life events – including births, weddings, and funerals. While dramatic storylines featuring family conflicts, extramarital affairs, and crime are frequently portrayed, funerals also inevitably feature in soaps on occasion. Although it is not within the scope of this thesis to survey the portrayal of funerary practices within British soaps throughout history, it is worth noting that soaps tend to reflect the society in which their audience belongs to. As such, soaps seek to depict the 'normal' lives of characters as if they are 'real' to encourage those watching to become invested in their lives and watch attentively to see developments unfold. Consequently, soap operas are a discussion-spurring medium, traditionally shown every weekday evening to encourage discussion of the events of the fictional series within the family home and at social gatherings. The popular engagement with soap operas has been evidenced as a 'hot topic' in the media on numerous occasions – one notable example concerns the *EastEnders* twenty-fifth anniversary storyline regarding the murder of the character Archie Mitchell. The *EastEnders* 'whodunnit' storyline came to a conclusion with a live episode which aired on 19 February 2010. The storyline attracted popular attention and speculation to such an extent that bookies took bets on 'Who Killed Archie Mitchell' during the live show, much as regularly occurs during live sport. The producers of *EastEnders* purposely heightened public speculation about 'whodunnit' by revealing to the press that even the cast of *EastEnders* were unaware of who the killer was, that multiple endings had been rehearsed by the cast, and that the actor playing the responsible character would only be informed of their 'guiltiness' just moments before the live episode would air. While it must be acknowledged that a 'whodunnit' storyline is largely unfamiliar to viewers' everyday lives, the attention that the storyline generated illustrates the way that soap operas, and other visual media programming, infiltrates the ordinary. In less dramatic ways to the *EastEnders* 'whodunnit' example, soap operas reflect contemporary society and regularly comment on relevant political events and prevailing social issues. In this way, while 'typical' activities, such as engagements in the workplace and local pub, are shown, soap storylines also reflect changing societal norms and values: soaps 'keep up' with contemporary societal developments.

While funerals are not generally central to soap storylines, or other visual media which may involve a character dying, it is notable that there has been a shift in the depiction of the location of funerals from graveside to crematorium over time, reflecting the change in the popularity of cremation in recent decades in the UK context. Other funerary trends have also been depicted in the soap genre. The funeral of Luke Morgan in *Hollyoaks*, aired on 7 July 2022, is a recent example of a soap depiction of a funeral that reflects changing funerary trends in British society. The portrayal of Luke's funeral is significant because it references two funerary choices that may be simultaneously perceived as marginal but growing trends: (i) the use of a cardboard coffin that has been decorated with emblems resembling the deceased's interests; and (ii) the deceased's coffin being brought into the family home before the funeral. The second element was also recently depicted in the funeral of Dot Cotton in *EastEnders*, aired on 12 December 2022. It is interesting to note that in the *Hollyoaks* episode, no comment is

made regarding the choice of a cardboard coffin, and so its feature may only be apparent to those eager-eyed. Nonetheless, the decision to portray a cardboard coffin will have actively been made by producers and scriptwriters, which is an interesting phenomenon within itself. The availability of cardboard coffins is a contemporary funerary 'innovation' and is becoming an increasingly popular choice in the British context. The portrayal of a cardboard coffin in the popular culture medium of a soap opera is unlikely to have a direct influence on whether individuals choose this option within their funeral wishes, but it nonetheless plants a seed within popular imagination that this option is possible. The influential role of audio-visual broadcast media in public funerary education has been substantiated by research conducted by Opinion Matters on behalf of Co-operative Funeralcare in 2017, which found that some 24 percent of the population said that they have 'been prompted to talk about the prospect of a loved one's death or a serious health condition with those close to them having watched real life or fictional events on TV shows' and ranked the 'top ten' on-screen soap deaths that had spurred the most popular discussion about death and dying (Co-op 2017). Hence, given the discussion-spurring nature of fictional television programmes, the portrayal of different funeral options within visual dramas can act as educational reference points for the British public.

### *YEARS AND YEARS*

The most significant televised media portrayal of contemporary funerary practice for scrutiny in this thesis is sourced in a six-part BBC drama *Years and Years*, written by Russell T. Davies, which was first aired in 2019. The dystopian-science fictional television series follows current affairs over fifteen years in Britain (2019–2034) through the eyes of the Manchester-based Lyons family, tracing political upheavals, economic instability, and technological advances. Notably, while the series is dystopian fiction by genre, the filming locations of the series mean that visually, the series reflects the landscape of contemporary Britain and thus, arguably, the way that the series is depicted feels extremely familiar to those residing within the UK, just like soap operas do, as opposed to depicting something 'futuristic'. This analytical point is significant context for the analysis that follows concerning the third episode of the six-part series, set in 2026. In the third episode of *Years and Years*, the funeral of the Lyons's estranged father, Vincent, takes place. The funeral is analytically significant for this discussion because the funeral explicitly involves alkaline hydrolysis. It must be noted that while the portrayal of AH in *Years and Years* is arguably minute in significance when compared with the wider narrative of the dystopian series and the narrative within this particular episode, with the funeral and its associated narrative spanning little more than five minutes of the episode, its feature is nonetheless significant. Immediately, the portrayal of AH in *Years and Years* is striking because the episode portrays AH as being a functioning funerary practice in the UK in 2026. In the year in which *Years and Years* was aired, 2026 was only seven years in the future, and so this was not an overly 'futuristic' portrayal of the funerary practice. While popular discussion regarding the occurrence of AH may be more likely to be spurred if a funeral involving AH was depicted in a popular soap drama than in a dystopian drama where the unordinary is expected, the portrayal of AH in *Years and Years* is an insightful example of how the British public may be exposed to funerary innovations.

During the episode, after learning of the death of their father, the family of the deceased arrive at what looks like a crematorium chapel in Leicester. The family are first shown stood in pews within the chapel, watching the coffin being carried into the chapel and waiting for the service to begin. The portrayal of the beginning of the funeral service represents the normative experience of a conventional cremation service in the British context. Moreover,

the appearance of the building resembles a typical UK crematorium, with pew seating, a lectern, catafalque, television screens, and a mechanical screen for the committal. Notably, the Lyons family did not arrange the funeral of their estranged father and appear to assume that they are attending a cremation service. The Lyons first learn that their father's funeral will conclude with AH when reading the order of service, as Edith exclaims:

> 'Oh my God. This isn't a crematorium. […] This place, it isn't a crematorium. It's an aquatorium. They don't burn him. He gets dissolved.'

Edith's comment is the first acknowledgment of AH in the episode, and the scene unfolds from this point onwards. At this juncture, content analysis of the scene, attending to its accuracies and inaccuracies, aids the discussion that follows (see Table 4). No physical imagery of an AH vessel is depicted in the scene, rather the funeral service concludes with the coffin being concealed from view following the committal. In many ways, this leaves the 'back-stage' element of funerary activity as consigned to the imagination of the viewers. The scripted initial reaction of the Lyons siblings in response to Edith's comment above describes that 'All smiles dropped, appalled'. Nonetheless, even though shock is visibly depicted in the characters' expressions, the discourse begins by describing the AH process accurately, as Edith explains, 'It's called alkaline hydrolysis. Better for the environment.' Promptly, however, the discourse then turns to focus on many of the misconceptions and squeamish reactions that AH has elicited, for example, Rosie questions, 'They boil him? […] Boil in the bag. Like sous-vide.' The dialogue that is engaged by the visibly shocked characters during the funeral service is akin to many of the headlines that appeared in print media in the early news of AH in the UK, as discussed in the previous section. For example, the nature of the dialogue resembles headlines including: 'YOU'LL END UP IN HOT WATER: BODIES TO BE BOILED INSTEAD OF CREMATED' (Bale 2007), 'Would you like to be dissolved at your funeral?: An alternative to burial or cremation is gaining popularity, but it'll turn you into a stinking brown goo' (Dawson 2014), and particularly the headlines that followed Severn Trent's denial of a Trade Effluent permit for Sandwell Council's prospective Resomator. It is not directly obvious whether the producers of *Years and Years* hoped for the portrayal of AH to be controversial, but the fact that another funeral occurs later in the series which involves cremation rather than AH suggests that the decision to include AH on this occasion is significant.

Despite the relatively neutral portrayal of AH in the episode of *Years and Years*, one vital inaccuracy must be noted, namely, that it is implied that *only* liquid remains are returned to kin following AH. The visual portrayal of the Lyons's experience at the funeral and wake implies that the deceased's body is completely broken down into 'liquid' and then these 'liquid' remains are divided and returned to kin as a memorial. While it must not be overlooked that some providers of AH *do* offer the return of some or all of the AH effluent to kin, as discussed in Chapter 5, the consistency in the practices of cremation and AH – that the body is reduced to bone fragments which are then further reduced and returned to kin – is not depicted in the *Years and Years* episode. Moreover, there is a slight paradox within the inaccurate representation of AH itself. This paradox is grounded in the verbal descriptions of the AH process compared with how AH is visually portrayed. In the episode, Edith refers to the deceased 'going down the drain' and implies that nothing will be returned to kin following the AH process, as Edith states, 'You get flushed. Down the drain. Out to sea. The end.' Moreover, the symbolism of the body 'going down the drain' is visually depicted by Muriel flushing her toilet after reading about what the AH process involves, wishing her ex-husband on his way, saying 'Goodbye Vince' as she triggers the flush. Yet, the verbal description is later directly contradicted when the kin are given vials containing their late father's 'remains' at the wake.

Hence, the verbal and visual portrayal of AH in the episode is somewhat paradoxical. Nevertheless, despite the inaccuracies in the portrayal of AH and the 'shock' factor reflected in character responses within the scene, AH is arguably posed as a relatively 'normal' practice in *Years and Years*. To emphasise the normative nature of the portrayal, for example, when the vials of effluent are returned to kin, Stephen comments, 'It's just like scattering the ashes, I suppose.' While this frames the practices associated with AH as normative, it would have been interesting to see a portrayal of the reactions of characters to receiving the reduced remains within an urn *and* the effluent. However, the offering of the effluent to kin is not a mainstream practice, with only a handful of providers offering this option. Hence, a more closely accurate portrayal of AH would only have included the depiction of the reduced remains being returned to kin. As such, it is important to note that the portrayal of AH in *Years and Years* is not wholly accurate.

Table 4. Details of the accuracies and inaccuracies of the portrayal of AH in *Years and Years*, produced by author.

| **Accuracies** | **Inaccuracies** |
|---|---|
| The process is called alkaline hydrolysis by characters: 'it's called alkaline hydrolysis'. | Characters refer to the water boiling: this is inaccurate because the pressurised vessel prevents boiling. |
| The AH process is correctly described by most characters as using alkaline in the process, not acid – 'It's alkali.' | One character refers to the AH process as using acid ['It's acid!'], which is inaccurate, but this is corrected by another character. |
| The AH process is described as being 'better for the environment'. | Kin receive liquid remains rather than 'ashes'. Receiving the effluent is a possibility but it is not the only by-product as 'ashes' are also a resultant product – for example, Be a Tree Cremation (Denver, CO, USA) offer the opportunity to receive both elements, but not in the way it is depicted in this episode. See 'The Production of Fertiliser' in Chapter 5 for details. |
| The description of the process is relatively accurate: 'They don't burn him. He gets dissolved.' 'Put the body in a big tube. […] Fill it with water. Heat it up.' | |
| The residual effluent is correctly described as resembling 'weak tea' and being 'soap-like'. | 'And the coffin begins to sink.' – this is inaccurate because a coffin is not used in the AH process. |
| Edith refers to the body being 'flushed down the drain'. This is accurate because the effluent is released into sewerage – however, this is tainted with inaccuracy (see next column). | The description implies that the entire body is broken down to liquid and nothing else is left at the conclusion of the AH process – this is inaccurate because bones and inorganic materials remain. |

Nonetheless, the scriptwriters and production team had certainly conducted research before filming the episode as personal communication with Resomation Limited found that there was email correspondence between Resomation and the *Years and Years* production team, which had been spurred by the production company. While the production team's research is clearly evidenced in the on-screen depiction of AH, one striking example of the

research can only be seen if the screenplay is paused and very closely scrutinised. This is sourced in the scene when Muriel, a character who does not attend the funeral, is shown searching the internet for information about the facility where the funeral is taking place. During the screenplay, Muriel's laptop begins reading aloud content from the facility's website. At closer inspection, it is evident that an entire webpage on alkaline hydrolysis has been produced for the *Years and Years* episode. While it is practically impossible for viewers to read the detail that appears on screen, the inclusion of the details on AH is noteworthy. Interestingly, while the verbal descriptions and visual portrayal of AH are somewhat inaccurate, the webpage describes the AH process accurately and stipulates that the process 'dissolves the soft tissues, leaving only bone fragments to be processed into ash'. This suggests that the decision to *not* illustrate this in the screenplay may have been taken to add more of a 'shock' factor to the dystopian portrayal of the funerary option. What is more, when the kin receive the vial of their late father's remains at his wake, Edith drinks the liquid which, again, seems to add a sense of 'oddness' surrounding their father's choice of AH. Nonetheless, perhaps in the realm of dramatic television, this was only included to add to the dystopian nature of the programme. Hence, acknowledging the genre is important here because it inevitably influences the reaction of the audience. If real-time BBC news revealed that somebody had 'drunk' the 'remains' of another human being, it would likely prompt public outrage, but in a dramatic fictional series, morally questionable actions are far less likely to spur debate. Either way, the inclusion of AH in the familial setting of *Years and Years* may well spur debate about future possibilities for funerary practices in the British context, albeit no major public reactions were recorded at the time of its release.

## ARE THE BRITISH PUBLIC AWARE OF FUNERARY INNOVATIONS?

This chapter has exemplified that 'consumer' knowledge of funeral industry activities remains relatively low in the British context. Even when members of the British public are aware of the basic options that are available to them at the end of life, the level of detail concerning what those options involve is minimal. In the case of the two major modes of body disposal – burial and cremation – burial may well be conceptualised as a coffin being placed in the ground for eternity, and cremation as fire reducing the body to ashes. However, the intricate details of the processes – for example, details concerning the specific process of decomposition during burial, and the heat of the cremator during cremation and the occurrence of the cremulation process – are likely to be absent from public understanding. This limitation in the depth of popular knowledge is grounded in Canning, Swmigin, and Vaessen's (2016) research findings, which highlight that popular understandings of funerary options are broad and literacy of precise details concerning funerary practices, such as the cremulation process, were absent from participants' knowledge base. I do not argue that the British public ought to know the intricate details involved in funerary activities, nevertheless, this highlights the potential gap in knowledge surrounding funerals writ large. The three case studies considered in this chapter exemplify the uniquely nuanced position of funerary activities in public consciousness and demonstrate how popular understandings can be influenced. The ordering of the sections within this chapter is deliberate and reflects the hierarchy of the levels of knowledge that each case study respectively reflects, therefore demonstrating from which medium public education of funerary practices should stem. Despite arguing that the funeral industry ought to be the primary educator, this chapter has emphasised the significant role of popular culture in raising popular awareness and stimulating the education of funerary choices in contemporary British society.

Moreover, the chapter has shown that the importance of the influential role of popular media should not be ignored nor undermined. As already suggested, popular exposure to funerary innovation via popular media will likely elicit a very different reception compared with deliberate exposure through web searches and engagement with funeral practitioners. Nonetheless, having been exposed to funerary options via popular media, individuals may be encouraged to conduct further independent research which may enable the development of a deeper understanding of the funerary choices available. Arguably, then, exposure via popular media may be a more effective means of spurring curiosity and spontaneous discussion with others than exposure via a funeral practitioner would. Speaking from personal experience, I recall countless friends and family members who had never heard of AH before I began this research who noted the significance of Tutu's choice in prompting discussions within their family homes and workplaces. The case study of the reporting of Tutu's choice is significant for a number of reasons, but the nature of the narrative that was adopted by media outlets is particularly noteworthy. Not only did the reporting of Tutu's choice indicate that AH is a funerary option that is available in some parts of the world, but the framing of AH as an environmental choice dominated the narrative. As such, the reporting of Tutu's funeral emphasised, as Sieber noted, 'how fitting your end of life choice can be' (Sieber 2022). Hence, the accounts underscored the ability to align one's lifestyle with one's death-style. Consequently, those learning of AH for the first time because of the reporting of Tutu's choice – arguably, the vast majority of the global population – not only learned what the AH process involves but moreover learned of it as an eco-friendly funeral option. The Sandwell Council case also highlighted this fact but, as explored throughout, the Tutu case framed AH in a particularly positive light. Furthermore, the portrayal of AH in *Years and Years* also framed AH as an environmental choice but is perhaps less 'helpfully' educational than the print media's representation of AH.

Given the discussion at the beginning of this chapter concerning the evident lack of forethought regarding personal funeral wishes in the contemporary British context, the development of sources for public funerary education is necessary. Evidently, such education needs to come from multiple sources beyond the direct experience of a funeral arrangement meeting with a funeral director. Throughout this chapter, the significant role that the indirect influence popular media can have on raising British popular awareness of funerary innovation has been stressed. Perhaps, then, the most effective means of education is a combination of accurate portrayals of funerary options in popular media, directly influenced by the industry, combined with direction to in depth informational resources. Drawing together the insights presented throughout this thesis, it is clear that AH is well primed for its imminent introduction within the British deathscape. However, the framing and education of AH by the British funeral industry will be pivotal to its success. Hence, while this thesis argues that the British public are likely to be receptive to AH, this chapter emphasises that educational mediums need to be significantly developed by British funeral industry stakeholders in order to enable AH and any other funerary innovations to become popularised in the British context.

# CONCLUSION: SHIFTING BRITISH DEATH-STYLES

This thesis has demonstrated how social change in contemporary Britain has and continues to influence changes in British death-styles. Chapter 1 showed that funerary traditions in the UK have not been static. While funerary changes have largely been adopted over the course of centuries rather than decades in the UK, over the course of the last half a century, funerary changes in the British context have been considerable. In that time, cremation overtook burial as the normative method of body disposal, natural-woodland burial was introduced and popularised to such an extent that the number of natural-woodland burial grounds is now comparable with the number of crematoria, Britons became more creative with cremated remains, and direct cremation began to be popularised. Hence, while changes in British death-styles have been most clearly demonstrated by the shift in normative practice from burial to cremation – with cremation having been the most popular method of dead body disposal in the UK now for over half a century – the increase in the personalisation of funeral services, uptake of private ash disposal-memorialisation activities, and rise in direct disposal are further demonstrative of the continued adaptation of funerary practices to the changing sociocultural circumstances of the British context, as Chapter 3 extensively explored. Chapter 2 showed how funerary activities are increasingly converged with the environmental discourse. Popular environmental concern is undoubtedly increasing in the UK, with 'the environment' consistently considered to be the third highest political concern, only behind the economy and health, and such concern is evidently extending to consumer purchasing decisions. While there has been an evident growth of green consumerism in the UK, at present, green consumerism has not had a permeating influence on the British funeral industry. This largely seems to be because of a lack of public awareness of the environmental impact of funerary activities and the availability of different funerary options, which could be addressed by the development of public education on these issues, as Chapter 6 argued. Chapter 3 explored the influence of worldview on British death-styles and argued that the increasing diversity of British death-styles implies that there will certainly be some positive uptake of AH, even if the proportion of the uptake is not known at present. To explore how AH may be popularised in the UK, Chapter 4 presented findings from fieldwork conducted in Minnesota, USA, and reported that four motivations are driving the choice of AH in the USA. The reasons for choosing AH are wide-ranging, but the four motivations – AH as an environmental, gentle, water-based, and natural choice – stood out throughout the fieldwork. AH has largely been adopted in the USA as an alternative to cremation and its environmental merits have been a driving influence for some, but not all, who have chosen AH. Given the findings presented in Chapter 2, I anticipate that the environmental 'selling point' of AH may have more of an influence in the UK. This research has furthermore demonstrated that the British public will be amenable not only to the concept of AH but also practices associated with necro-waste which seek to further reduce the environmental impact of funerary activities, as Chapter 5 showed. Indeed, together, Chapters 5 and 6 illustrated how pivotal public education can be to determine acceptance in these cases. The contemporary energy and cost of living crises coupled with longstanding popular environmental concerns will only likely add impetus to these issues, making environmental funerary options and dispersal practices a necessity. With the sociocultural, political, and worldview contours of contemporary Britain outlined in this thesis, the next British funerary change is anticipated to be a shift towards more sustainable death-styles, manifested particularly by the adoption of AH.

With sustainable living extending to all walks of life – from where one buys their groceries to one's choice of transport to work – it is anticipated that sustainable lifestyles will also increasingly extend to death and therefore choice of funeral. This has already been seen in the contemporary British context to some degree through the popularity of natural-woodland burial, largely 'sold' by the funeral industry as a 'green' and 'eco-friendly' choice. However, as this thesis has shown, natural-woodland burial is largely a minority practice in the UK at present. Moreover, while natural-woodland burial is a relatively environmental funerary choice, it is not a scalable body disposal practice at present in the UK. As discussed in Chapter 2, unless the re-use of graves becomes commonplace in the UK, despite the eco-political appeal of natural-woodland burial, it is not a practical solution to the environmental problems posed by 'traditional' disposal methods on a scale that could manage all annual deaths in the UK. Furthermore, while natural-woodland burial indisputably has a lower environmental impact than 'traditional' disposal methods, given the relatively small number of natural-woodland burials in the UK, in terms of ecologically driven alternatives to traditional burial and cremation, natural-woodland burial cannot drastically contribute to the reduction of the overall environmental impact of British funerary practices. Contrastingly, AH is both a scalable *and* sustainable body disposal practice which can be considered a practical solution to the environmental problems posed by contemporary funerary activity in the UK.

Not only is AH a more scalable practice than natural-woodland burial, but it will also arguably appeal to a broader spectrum of the British population. As Chapter 4 outlined, four motivations are driving the choice of AH in the USA context, and this research has shown that these motivations will also likely have an influence in the British context. In the USA, AH has generally been popularised as a 'form' of cremation, particularly due to the process and output similarities of cremation and AH. This, coupled with its environmental attributes, primes AH as an appealing choice in the British context. Currently, some 80 percent of Britons choose cremation. Therefore, my argument that a share of that 80 percent of the population might opt for an environmental 'form' of cremation, with minimal (if any) difference in the experience of a funeral, is sound. The worldview landscape of contemporary Britain particularly grounds this point. As the analysis of British worldviews in relation to British death-styles in Chapter 3 showed, religion cannot be said to influence the majority of contemporary funerary choices in the UK. This is particularly clear when setting the British cremation statistics against those concerning worldview, exemplifying that of the 80 percent of the British population who presently choose cremation, very few do so for *explicitly* religious reasons (i.e., cremation is prescribed by their religious tradition). The reasons why the overwhelming majority of British people choose cremation are many and varied, nevertheless, on the whole, cremation can largely be framed as an economical and practical funerary option in the contemporary British context. Against this background, the adoption of AH in the UK is largely dependent on how it is framed by the funeral industry, both in terms of how it is described and how it is priced.

Economic factors will undoubtedly influence the popularity of AH in the UK. Returning to the discussion in Chapter 2 regarding consumer preferences alongside popular concern for the environment, I stipulated that while many consumers may be more inclined to buy products that are classified as 'environmentally friendly' rather than less environmentally sound products, this is not always the case because consumer inclinations stretch beyond environmental concerns. For example, accessibility, cost, and functionality are all typical considerations. In the case of funerary options, accessibility and cost, along with a practice's alignment with one's personal worldview, will be important considerations. If the price of AH is comparable with cremation, as the UK's most 'economical' disposal option, then AH's environmental merits may encourage its choice over cremation. Contrastingly, if AH

is significantly more expensive than cremation, then its 'environmental' appeal is likely to be much smaller and perhaps only draw from affluent 'deep green' consumers. Economic considerations are noteworthy because while Woodthorpe et al.'s (2021) research found that cost was not the major driving force behind the choice of direct cremation, the contemporary marketing of direct cremation frames it as by far the most affordable funerary option in the UK – according to SunLife (2023), a direct cremation costs £1,511 on average compared with £3,673 for a standard cremation. Hence, particularly considering the contemporary 'cost of living' crisis, the price of funerary products may begin to have a more substantial influence on choice of funeral in the UK. As such, environmental funerary options may only appeal on a mass scale if offered 'at the right price', irrespective of their eco-political appeal. Currently, in the USA, AH is either offered at the same price as cremation or slightly higher. Nonetheless, this ought to change in the future given that the running costs of AH are considerably less than those of cremation – this cost reduction is achieved because AH significantly reduces the consumption of energy required compared with cremation. Certainly, any business investing in AH technology must make back their investment costs for the business to be viable; however, once installed, beyond the initial costs of the machine, AH cycles are much cheaper to run than cremations. Therefore, AH should be cheaper than cremation, but it will most likely be marketed at a similar price to cremation in the early phase of its operation in the UK. Nevertheless, particularly when compared with other sustainable funerary options – including natural-woodland burial and human composting – AH is both a sustainable *and* economical funerary option. However, it is still uncertain how AH's presentation, both in terms of cost and description, will influence consumer decision making in the British context because the role and autonomy of the 'consumer' within the British funeral industry is still debated.

Nonetheless, the notion of consumer choice and its necessity is slowly beginning to permeate the UK funerary realm. As noted in the introductory chapter, at present, the role of the 'consumer' within the British funeral industry cannot be argued to have much of an influence on the availability of products within the industry nor the price of funerary products. However, this is changing and has been particularly triggered by the CMA's investigation of the funeral industry. Arguably, the need for the CMA's investigation and the fact that the cost of a funeral has increased so dramatically beyond the rate of inflation over the last decade or so (The Competition and Markets Authority 2020) is evidence of the 'passive' or 'unassertive' role of the consumer in the British funeral industry. Yet, the contemporary interest in direct cremation in the UK may be evidence of the funeral consumer beginning to 'take control' of the market and actively influence funeral industry offerings. The choice of direct cremation can, in part, be interpreted as the funeral consumer protesting the substantial cost of a funeral and/or the 'traditional' nature of funerals in the UK. Woodthorpe et al.'s study found that the choice of direct cremation was a positive choice for which participants felt a 'strong conviction' that they had 'made the 'right' choice' (Woodthorpe et al. 2021, p. 12). With a shift in funeral consumer inclinations gradually becoming more evident in the British context, death literacy is expected to increase and consequently consumer demands within the British funeral industry are also likely to increase. Accordingly, Beard and Burger's argument that the funeral industry will *have* to change by innovating in order to 'maintain profitability and to satisfy consumer demands' (Beard and Burger 2017, p. 64) will likely become more apparent in the British funerary context. If this becomes the case, then environmental consumer preferences are more likely to extend to funerary choice. As such, framed by this context, AH is increasingly likely to become 'sought out' by members of the British public who are making funerary decisions.

While economic considerations will likely be a significant driving influence regarding the choice of AH in the British context, how AH is presented will be just as, if not more, important as the British public are exposed to this funerary option for the first time. This research has demonstrated that the use of terms including 'water' and 'green' cremation to describe AH have been helpful in educating the public on AH in a straightforward way. Hence, given that this thesis argues that AH is most likely to be adopted in the UK by those who presently opt for cremation, the adoption of a similar narrative by British funeral industry stakeholders is most likely to facilitate the uptake of AH. Nevertheless, at present, the term used to describe AH colloquially has not been unanimously decided by the global funeral industry, which may leave scope for consumer confusion. The most common terms used to describe AH are 'aquamation', 'water cremation', 'resomation', and 'green cremation'. Until AH becomes extremely widely adopted, and even if that becomes the case, the term 'alkaline hydrolysis' may remain largely unused when it comes to marketing AH as a funerary option. Presently, the term 'alkaline hydrolysis' is occasionally used in marketing when *describing* the AH process, but this tends to be after it has been introduced using one of the colloquial terms. For instance, Be a Tree's website describes AH in the following way:

> 'Water cremation, also known as alkaline hydrolysis or aquamation, is a gentle process that uses 95 percent water and 5 percent alkali (a chemical often used in liquid soaps) combined with heat to mimic the natural decomposition process.'
>
> (Be a Tree Cremation n.d.-b)

Such use of the term 'alkaline hydrolysis' has also largely been adopted in media accounts of AH, as discussed in Chapter 6. Kindly Earth, owner of the first British 'Resomatoria', has adopted the term 'resomation' to describe AH. Which term will be deemed as most appropriate in the British context is a matter of debate. Whichever term is chosen, this research has shown that familiarising the AH process by equating it with cremation has facilitated its adoption. Arnold et al. pick up the notion of how AH should be 'represented', arguing that in all forms of the technology, none have yet established 'a clear position in the public imagination' (Arnold et al. 2023, p. 1). Nevertheless, in the case of this research's fieldwork participants, their facilitation of public understanding appears to have been successful. This is true from the education of funerary professionals to engagements in the medical science setting, all the way through to funeral consumers. More pertinent to this research is Arnold et al.'s comment that while 'Environmental problems related to fossil-fuel consumption, emissions and global warming are well known, […] the mitigating role alkaline hydrolysis might play, is not' (Arnold et al. 2023, p. 16). Hence, alongside the need for AH's description and price to be appropriately dictated by the British funeral industry, perhaps the most significant key to AH's adoption within the British deathscape is public education, as argued in Chapters 2, 4, 5 and 6. If the public are aware of the 'mitigating role alkaline hydrolysis might play' then AH may well be widely adopted, as one UK Funeral Director commented, 'the current generation of people dying are more eco-conscious than the previous. I think people will be receptive to this if it is marketed and conveyed correctly.' Funeral industry stakeholders will therefore be central to the successful adoption of AH in contemporary Britain.

Funeral industry professionals that I have engaged with over the course of completing this research have been generally positive about the prospect of AH. Regardless of their own personal preference of funerary choice, funeral industry professionals have generally spoken of the importance of offering all available options to the public. As one UK Funeral Arranger commented, 'it is prudent to offer all choices to a client', emphasising the importance of doing so for what is a 'very personal decision'. Some industry professionals have expressed strong

enthusiasm for AH and subsequent frustration that over a decade after AH was first offered commercially, the British public have still not been offered the option. Nevertheless, on the whole, the response of the British funeral industry has expressed that with appropriate materials and modes of education, the British public will be receptive to the option of AH. Prior to public education, the British funeral industry need to become competent with the concept of AH themselves. Therefore, funeral industry organisations such as the Cremation Society of Great Britain, Federation of Burial and Cremation Authorities, National Association of Funeral Directors, and Institute of Cemetery and Crematorium Management, amongst others, ought to facilitate this industry education – this has already begun but the scope for industry education can be further extended. Industry competence will allow for better engagement with the public and will facilitate the development of educational and advertising content on AH for the public to access. Ultimately, government regulation would allow AH to become a formally established funeral option in the UK. The Law Commission first announced its plan to reform funerary laws to establish 'A Modern Framework for the Disposal of the Dead' in 2017. Five years later, in late-December 2022, the Law Commission announced that the project had begun (Law Commission 2022). However, the time scale for the reform remains undetermined. Until the reform is complete, funeral industry innovators will continue to be at the forefront of pursuing the advocacy of new funerary options in the UK, including AH.

Hence, this thesis has argued that AH is a sustainable, scalable, and affordable funerary option that is likely to appeal to a significant proportion of the British population if it is framed in an appropriate way by stakeholders in the British funeral industry. While this research was able to draw comparative insights from the USA context, it must be acknowledged that the funerary contexts of the USA and UK differ in how they respectively function. Moreover, AH remains in an early adopter phase in the USA. In many ways, this further legitimises the speculative aspects of this thesis because the reasons for AH's adoption and its projected future in the USA remain relatively unknown beyond the findings of this research. Likewise, this research was conducted before AH was introduced in the UK and so it has documented an emergent history of AH and projected its future adoption in the UK. While some aspects of the thesis are unavoidably speculative due to the current status of AH, it is grounded in theoretical and practical research findings, making it possible to argue that AH will most likely be adopted in the contemporary British context by those who presently choose cremation, as an environmental alternative to cremation. As such, the thesis argues that AH is likely to be adopted by Britons as both an environmental and economical form of body disposal and is therefore expected to take a share of UK cremations. The time scale for AH's adoption in the UK to be actualised is uncertain, but once the first facilities are established and AH can be offered throughout the UK, it will then be possible to trace its uptake and identify appropriate trends.

Returning to the discussion regarding top-down versus bottom-up social change briefly outlined in the introductory chapter, I reflect once more on what has enabled the innovation of AH to become a formalised funerary option. Still in an early adopter phase, the passion of those who have invested in AH technology is undoubtedly the reason that this technology has been embraced. Certainly, AH must appeal to 'consumers', otherwise there would be no market for it. However, the passion, intellectual and monetary investment that early adopters of AH have put *into* AH has facilitated its early success. In particular, the engineering-business expertise and drive of Sandy Sullivan and Joe Wilson cannot be forgotten as this innovation spreads throughout the world. Indeed, the collapse of $WR^2$ could have been the end of AH in the funerary realm, but these two businessmen continued to invest in the technology and are a foundational reason why funerary style AH exists. Moreover, Dr Gordon I. Kaye and Dr Peter B. Weber's work to develop AH as scientific innovators was pioneering. Without

the formation of their company, $WR^2$, and the work of Sullivan and Wilson, AH may have never entered the funerary realm and remained consigned only to agricultural and laboratory settings. Howard Pickard's investment of his fifth-generation family business, the Leeds and Bradford Boiler Company (LBBC), in Resomation Limited has facilitated the major development of AH in the UK, including the formation of Kindly Earth Limited. Of my participants, Dean Fisher, Terry Regnier, and Jason Bradshaw laid the groundwork for all who followed. Indeed, because of their innovative efforts at Mayo Clinic, the first place in the world to use funerary style AH, Fisher and Regnier have been dubbed the 'Orville and Wilbur' of alkaline hydrolysis. Yet, with the size of the innovation in the USA as estimated by CANA, the work of those who came after cannot be overstated either. Tim Koch's role in the legalisation of AH in Minnesota, followed by his personal investment in AH and work to educate local funeral homes so that they can offer AH is significant. The work of Mark Ballard, the staff at Ballard-Sunder Funeral & Cremation, Jason Bradshaw, and the staff at Bradshaw Funeral Services, has enabled AH to become a popular funerary option in Minnesota, with some 50 percent of clients choosing AH over cremation in both cases. The work of Nicki Mikolai and Samantha Sieber, for Resomation Limited and Bio-Response Solutions respectively, has directly progressed the legislative position of AH in the USA and the education of the US public and industry on AH. What truly stuck with me from my fieldwork was the passion that every single participant had for AH and its success. Their investments were more than mere business decisions, they were investments in AH as a concept. The passion for AH that participants exhibited is undoubtedly a reason for their successes. Can a 'product' in an early adopter phase take off without those selling it believing in that product? Possibly – but it would be a hard sell, and this is even more pertinent in the sensitively natured funeral industry. All participants stressed that they believe that AH is the future. As such, rather than continuing with the norm, which they knew would be accepted, they chose to invest in the future and took significant risks in doing so, not knowing whether the risk would 'pay off'. The success of their work has proven that AH is a popular funerary option, which may well take an even bigger share of the global funeral market as popular awareness of AH increases.

This thesis has shown that social changes in Britain have led to changes in British death-styles, contemporarily expressed through increasing cremation rates, the personalisation of funerary services, the rise of direct cremation, and the imminent adoption of AH in the UK. The research has neatly followed the recent upward trajectory of the innovation of AH in the UK and this thesis is unique for this reason. Over the two and a half years that this research has been conducted, AH's progress in the UK has been substantial. As this research concludes in early 2023, AH is about to begin functioning in the UK for the first time, with a site on the cusp of becoming operational in the North East of England. How fitting that this research ends as the practice of AH begins to be offered in the UK. So, is alkaline hydrolysis the future of British death-styles? This research has shown that it may well be, but only time will tell.

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