

Analysis of Environmental-Ethical Concerns Within the United States Funeral Industry

Olivia Wisnewski

Thesis submitted to the faculty of the Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of

Master of Arts
In
Material Culture and Public Humanities

Michelle Moseley, Chair
Danille E. Christensen
Philip R. Olson

August 25, 2023
Blacksburg, Virginia

Keywords: US deathcare practices, environmental ethics, natural burial, cremation,
Alkaline Hydrolysis, Natural Organic Reduction, ethical analysis, harm reduction

Copyright 2023, Olivia Wisnewski

Analysis of Environmental-Ethical Concerns Within the United States Funeral Industry

Olivia Wisnewski

ABSTRACT

This thesis examines the failings in environmental-ethics present in the United States funeral industry, focusing on the lack of environmental ethical guidelines at an industrial and policy level. Utilizing an interdisciplinary approach through the lenses of environmental science, philosophical ethical considerations surrounding policy-based advocacy and ecocritical approaches to the concepts of reciprocity and harm reduction, this thesis makes recommendations to close the gaps in environmental ethical oversight. Focus is placed on mitigation of environmental harms resulting from changes in policy and legislation, and in-industry oversight, with an emphasis on the support of ecologically beneficial methods of the disposition of human remains.

Analysis of Environmental-Ethical Concerns Within the United States Funeral Industry

Olivia Wisnewski

GENERAL AUDIENCE ABSTRACT

The funeral industry in the United States has developed in a way that eschews environmental consciousness in the services available to consumers. This thesis examines the historical development of the relationship between the funeral industry and the environment, and the way the rise of the corporate funeral model ignores environmental concerns, as well as presents contemporary environmental issues that impact the industry. Additionally, the thesis explores the gaps regarding environmental impact present in the ethical guidelines the funeral industry adheres to, and the lack of environmental accountability coming from both within the industry and from regulatory bodies and the United States government. Finally, this thesis provides recommendations for the industry, and associated advocacy groups surrounding corrections and policy and practice changes that will support more a more environmentally friendly version of the funeral industry. In this case, environmental friendliness is defined by practices which take pollution impacts into account, as well as consider the sustainability of resource use incurred by both traditional and emergent technologies.

Dedication

Dedicated to the individuals who have committed their lives, and deaths, to green funeral practices across the United States.

Acknowledgements

This thesis never would have been possible without the exhaustive support of so many people within my life, in both my academic and personal circles. I would like to thank, for their academic support, the members of my committee. Dr. Michelle Moseley, for always being available in her office, and to talk about the future. Dr. Philip R. Olson, for being “the death guy on campus,” providing endless suggestions of sources , and without whom this project would make far less sense. Dr. Danille E. Christensen, for her consistent guidance and support through the two years of my MA, encouragement to include the ephemera, and willingness to answer all of my questions.

Additionally, I would like to thank Dr. Marian Mollin, for her unwavering academic mentorship for the past six years, always open office hours, and genuine friendship. Beth Christensen, for being a guiding force in all aspects of my life the past six years, opening the costume shop to me even when I was writing at three in the morning, and believing in me through it all. Stanley & Judith Wisnewski and Donald and Teresa Reuss, for moral support, and financial, throughout my entire education. My family, Mom, Dad, and Ian, for always supporting me, always welcoming me home, and never letting me give up. I promise I won't do anything weird when you die. To my friends, especially Caroline, Grace, Grant, Helle, Lair and Luci, for cheering me on through the endless nights of writing and interminable hours of editing and citation wrangling, and for making me laugh whenever I felt like I might lose it.

Contents

<u>CHAPTER 1: INTRODUCTION</u>	<u>1</u>
1.1 THESIS STATEMENT	1
1.2 METHODOLOGICAL APPROACH	11
<u>CHAPTER 2: LITERATURE REVIEW</u>	<u>17</u>
2.1 OVERVIEW OF SCHOLARSHIP	18
2.2 SUMMARY	37
<u>CHAPTER 3: HISTORICAL SURVEY OF THE UNITED STATES FUNERAL INDUSTRY</u>	<u>38</u>
<u>CHAPTER 4: ENVIRONMENTAL CONCERNS WITHIN THE UNITED STATES FUNERAL INDUSTRY</u>	<u>49</u>
<u>CHAPTER 5: ETHICAL CONCERNS WITHIN THE UNITED STATES FUNERAL INDUSTRY</u>	<u>70</u>
5.1 INTRODUCTION TO FUNERAL INDUSTRY ETHICS	70
5.2 CURRENT ETHICAL GUIDELINES	75
5.3 CURRENT ENVIRONMENTAL GUIDELINES	80
5.4 ENVIRONMENTAL ETHICAL CONSIDERATIONS	84
<u>CHAPTER 6: RECOMMENDATIONS</u>	<u>88</u>
6.1 INDUSTRY CHANGE FOCUSED MITIGATION	90
6.2 SOCIETAL CHANGE FOCUSED MITIGATION	98
<u>BIBLIOGRAPHY</u>	<u>113</u>

List of Abbreviations

CANA - Cremation Association of North America

CDC - Centers for Disease Control

CEC - Contaminants of Emerging Concern

EPA - Environmental Protection Agency

FCA - Funeral Consumers Alliance

FTC - Federal Trade Commission

GBC - Green Burial Council

NFDA - National Funeral Directors Association

NHFA - National Home Funeral Alliance

NOR - Natural Organic Reduction

SCI - Service Corporation International

USGS - United States Geological Survey

Chapter 1

Introduction

1.1 Thesis Statement

The contemporary United States funeral industry fails to take the environmental impacts of practices into account within its ethical guidelines and continued use of traditional disposition methods. In order for the funeral industry to retain relevancy and provide sustainable service to Americans for generations to come, industry leaders and key overseeing bodies need to engage in a reimagining of their ethical standards to better adhere to increasing attitudes of concern over anthropocentric environmental impacts. This reimagining does not seek to do away with the funeral industry in its entirety, rather, it attempts to improve the industry so it may continue to serve the ritual, cultural and spiritual needs of United States citizens while also engaging in environmental harm mitigation.

This thesis explores the environmental ethics of the United States funeral industry and analyzes the ways in which a policy focused approach toward industry commitment to ecologically friendly practices, overall reduction of environmental harm, and embracing emergent deathcare technologies will open doors for a new American way of death—one which actively attempts to work with the surrounding environment, rather than against it. Critically, this thesis makes the case for changes to policy, legislation and regulation surrounding the funeral industry at both the state and federal government levels, and for changes to cultural narratives surrounding methods of disposition of human remains. This is done by first examining the relationship between the environment

and the development of the United States corporate funeral industry, introducing, and exploring the environmental issues with the contemporary funeral industry, and identifying the gaps surrounding environmental care in the ethical guidelines the funeral industry already adheres to.

The examination of cemeteries and the United States funeral industry is also informed by the lens of material culture, and the inherent production of material culture that cemeteries represent. As the study of material culture is one of what humans leave behind, and their physical impacts on the environment, a material culture lens is critical to the consideration of cemeteries and their environmental impacts. Material culture, and the understanding of how humans make meaning out of the objects they create is central to the *why* behind cemeteries, and why the environmental-ethical improvement of the United States funeral industry is so important. The importance of cemeteries as places of memorialization has at least partially relied on their production of material culture for centuries, from the use of caskets for the transportation of remains to the use of headstones and other markers as semiotic stand-ins for continued relationships with the deceased.

With material culture sensibilities and awareness of the cultural value of cemeteries underpinning the research presented, the goals of this project are to identify and provide support to improvements and changes the United States funeral industry can make in the way its practices impact the environment so that it may continue to serve the emotional, cultural, and memorialization needs of the public while better adhering to continually changing attitudes and concerns about manmade environmental harm. The inclusion of material cultural sensibilities in this way serves to mitigate overly idealistic

environmental activist modes of thinking which discount the importance of the ritual and meaning making that takes place in cemeteries across the United States.

The project examines the funeral industry's treatment of the environment through the lens of ethics, taking a science-backed approach to the issue to explicate the harms being perpetuated and the ways in which human behaviors are responsible for changes to the surrounding environment. This is done through the use of Robin Wall Kimmerer's unique blend of environmental science and indigenous ethical concepts, as well as the examination of the Great Chain of Being from a critical standpoint, utilizing Jane Bennett's political theory on inanimate matter as actant capable of effecting change. Identification of the environmental concerns present within the contemporary funeral industry stems from case studies and environmental science reports from around the globe. Ethical principles are also identified through the examination of published guidelines from key funeral industry players, and regulatory bodies such as activist groups and legislation. Additionally, the thesis borrows heavily from the ethical concept of Harm Reduction—the notion that any reduction of attendant harm to a negative experience is a net positive as it improves overall quality of life without demanding unsustainable immediate change—to make the case for incremental but overarching change to the consideration of the environment and the implementation of disposition practices within the funeral industry.¹

Recommended changes include policy implementation and legislation surrounding environmental conditions within the funeral industry at both the state and

¹ Morgan Coulson, Melissa Hartman, "What Is Harm Reduction?" *Johns Hopkins Bloomberg School of Public Health*, February 16, 2022, <https://publichealth.jhu.edu/2022/what-is-harm-reduction>.

federal levels. Additionally, enticements and social supports are recommended to create conditions which enable consumers to make choices that fit with their personal religious, moral, ethical, and ritual desires while also considering the environment. Overall changes are recommended to make improvements to the environment that serve to bring all choices consumers could make further in line with continuously changing environmental standards and concerns.

Ideal solutions are supported by citizen political power, and the implementation of legislation or policy that holds the industry accountable on a wide scale *and* creates supportive conditions for consumers to make the choices that are right for them. Suggestions are formed on the basis of political power being exercised at the citizen level to create legislation, policy, and social support for change as a spiritual succession to Jessica Mitford's consumer politics approach to industry-wide change in the 1960s. Current political conditions emphasize citizen responsibility as more than consumers of products, and thus, activism extends beyond the idea of voting with ones' dollar, or solely making individual choices in the midst of an imperfect industry. Rather, engagement at the social, local, state, and federal levels can improve conditions across the board and mitigate environmental harms perpetuated on broader scales.

The United States funeral industry has endured far less scrutiny from the larger public in the push for environmental conservation, in comparison to concerns over air travel emissions, single use plastics, and pollution and fossil fuel dependence in the automotive industry.² However, a growing percentage of Americans are raising ongoing

² Jocelyn Timperley, "Should We Give Up Flying for the Sake of the Climate?," *BBC News*, February 18, 2020, <https://www.bbc.com/future/article/20200218-climate-change-how-to-cut-your-carbon-emissions-when-flying>. ; Niraj Chokshi, Clifford Krauss, "A Big

concerns with the environmental impacts of the funeral industry to the forefront of the conversation, carrying on a legacy that goes back decades, and championing what author Mark Harris refers to as “little more than a return to long tradition,” pushing for a “regreening” of death that embraces new technologies to operate in ways that are beneficial to the earth.³ In order for the funeral industry to continue to serve the needs of the American people, it must change to be better in line with contemporary concerns with human impact on the environment, and make space for emerging alternative methods of deathcare and disposition. New technologies will continue to be developed, and as consumers continue to make decisions informed by greater concern for the environment, the industry must either embrace these changes or suffer loss of relevance.⁴

Ethical discussions in this thesis expose the failings of the funeral industry to consider its impacts on the environment, both from internal guidelines and from oversight through policy and legislation, especially in comparison to the concern present for consumer protections. An emphasis on modern and historic groundwater contamination in cemeteries, the environmental costs of embalming, and carbon footprint and pollution concerns related to combustion cremation are illuminated through case studies and

Climate Problem With Few Easy Solutions: Planes,” *New York Times*, May 28, 2021, updated June 2, 2021, <https://www.nytimes.com/2021/05/28/business/energy-environment/airlines-climate-planes-emissions.html>. ; Teo Armus, “Northern Virginia Officials Wanted to Tax Plastic Bags for Years. And Now They Will.” *Washington Post*, September 19, 2021, <https://www.washingtonpost.com/dc-md-va/2021/09/19/plastic-bag-tax-fairfax-arlington/>. ; Rebecca Leber, “Fight Climate Change. End Fossilflation. Here’s How.” *Vox News*, August 12, 2022, <https://www.vox.com/science-and-health/2022/8/12/23290488/fight-climate-change-end-fossil-fuel-inflation>.

³ Mark Harris, *Grave Matters: A Journey through the Modern Funeral Industry to a Natural Burial* (New York: Scribner, 2007), 19.

⁴ “Key External Influences on Funeral Service,” *2021 NFDA Cremation & Burial Report*, July 2021: 5.

environmental impact studies on modern burial and cremation that provide the basis for environmental criticisms of the industry. This exploration of ethics is underpinned with an examination of the historical development of the United States funeral industry, through an ecocritical lens which seeks to examine the ways in which the development of modern deathcare techniques through the nineteenth and twentieth centuries eschewed environmental concern, and how the industry is now playing catch up in the twenty-first century.

The study concludes with policy suggestions that are focused on improvements in ethical practices for the funeral industry. These recommendations are made in line with the ethos of harm reduction, seeking to make incremental change towards an overall improvement to the funeral industry. Ideally, through the implementation of these recommendations and a commitment from industry professionals and citizens alike the funeral industry can be restructured for a more sustainable future. A sustainable future being one in which the industry can remain dynamic and responsive to changing environmental science and embrace emergent technologies like Alkaline Hydrolysis or Natural Organic Reduction (NOR), as well as further alternative deathcare practices which have not yet been developed.

It is important to recognize that in discussions of the United States funeral industry, the conversation is complicated by many factors, including race, gender, sexual orientation and queerness, religion, immigration status, and socioeconomic class. However, the industry forms its standards within the boundaries of cultural hegemony of Whiteness and Christianity in the United States, and broad references to *the funeral industry*, or *a modern burial*, are not neutral terms, instead calling to mind specifically

White, Christian practices. Though communities of color also utilize the services of the funeral industry, and there are even regional differences in practices within White Christian populations across the United States, the basic framework of an embalmed and casketed burial being the format of a proper funeral has its roots in White, Christian understandings of respectability which stem back to the Civil War.

Additionally, though the industry itself is relatively homogenous, it is not monolithic, and it is important to remember that the intersections between these complicating factors and their interplay with the cultural hegemony of the United States means there is incredible nuance to the reasoning behind funerary choices made at the consumer level. By focusing on the environmental ethics of industry standards, and suggesting changes from a policy standpoint, this thesis attempts to guide the industry towards improvements that will have impact across demographics, without attempting to further homogenize practices or disregard important cultural nuances in American deathcare.

In the United States, the concepts of appropriate reactions to death and care for the deceased are heavily informed by how they are depicted in entertainment. In funerals on television a casket is slowly lowered into the ground, surrounded by black-clad loved ones, who are sad. A headstone is erected, and grieving loved ones return to the site to continue to interact with the deceased. Alternatively, if an industry standard cremation is performed, the ashes are returned to the family in an urn. In these scenarios, funereal processes are very homogenized, all very imbued with a somber sense of ritual and prescriptive in the steps one must take to hold a “proper” funeral. This idealized version of deathcare has become a staple of the American way of death and from here forward

will be referred to as a “modern burial.”⁵ According to both Jessica Mitford, author of *The American Way of Death* in 1963, (and much of the Revisited edition published posthumously in 1998) and Mark Harris, author of *Grave Matters: a Journey through the Modern Funeral Industry to a Natural Burial* in 2007, the corporate funeral industry standard method of disposition, which includes an embalmed, casketed burial with associated viewing and funeral has changed little over the past several decades, except perhaps, to grow more materialistic and expensive for the consumer.⁶

In this case, and throughout this thesis, the funeral industry is defined by the corporate model of funeral homes which provide services from the moment of the death to the final disposition of the remains. In particular, the corporate funeral industry refers to those who are proponents of maintaining the status quo surrounding disposition options and upholding the primacy of casketed burial and combustion cremation.

However, death in the United States is rarely so uniform or predictable as the fictional funerals on television. Advancements in environmental understandings of pollution and human impact on their surroundings, as well as advances in deathcare technology have led to the emergence of alternative funerary practices, such as natural burial as an alternative to modern burial, and the development of Alkaline Hydrolysis and Natural Organic Reduction (colloquially known as human composting) as alternatives to

⁵ As defined by Merriam-Webster, deathcare is “of, relating to, or providing products or services for the burial or cremation of the dead. Organizations such as the Order of the Good Death and TalkDeath have expanded the definition of the term to include work performed by alternative professionals in the field, such as death doulas or grief counselors. ; *Merriam-Webster.com*, s.v. “Deathcare,” <https://www.lib.sfu.ca/help/cite-write/citation-style-guides/chicago/encyclopedias-dictionaries>.

⁶ Jessica Mitford, *The American Way of Death Revisited* (New York: Vintage Books, 1998), 10. ; Harris, *Grave Matters*, 10.

cremation. According to groups such as the National Funeral Directors Association (NFDA) a growing number of Americans are interested in seeing alternative disposition methods legalized, put into practice, and normalized—according to their Consumer Awareness and Preferences Report, 60.5% of Americans are interested in greener deathcare options, primarily for the purpose of their environmental benefits.⁷

The current iteration of the United States funeral industry subscribes to a very rigid notion of death and body disposition that places primacy on post-Civil War embalming practices and cemetery burials. The majority of America’s engagement with deathcare in the United States lies with industry cremation, as it is often a lower cost option in comparison to a multi-thousand-dollar modern burial.⁸ The economy of deathcare in the U.S. is predicted to become an even more important factor for both consumers making appropriate choices for their own deathcare and for the funeral industry as it continues to focus on profits, as an aging population increases the American death rate—as of 2020 16.8% of the United States population is 65 or older, approximately 55.8 million people.⁹ Secondary to being cost-saving, cremation is a

⁷ “Statistics,” Media Center, National Funeral Directors Association, last updated April 15, 2022, <https://nfda.org/news/statistics>.

⁸ NFDA, “Statistics.”

⁹ “Influence of Rising U.S. Cremation Rates on Funeral Service,” *2021 NFDA Cremation & Burial Report*, July 2021: 5. ; Zoe Caplan, “U.S. Older Population Grew From 2010 to 2020 at Fastest Rate Since 1880 to 1890,” 2020 Census: 1 in 6 People in the United States Were 65 and Over, United States Census Bureau, May 25, 2023, <https://www.census.gov/library/stories/2023/05/2020-census-united-states-older-population-grew.html#:~:text=The%20U.S.%20population%20age%2065,the%20United%20States%20in%202020>.

desirable option for many for its perceived environmental friendliness in comparison to burial.¹⁰

Though combustion cremation is widely considered more environmentally friendly than modern burial, as a disposition option it does not make much progress in the way of environmental care or conservation. Examinations of the air pollution impacts of crematories show that combustion cremation contributes to the emission of greenhouse gasses, while remaining low priority according to the Environmental Protection Agency (EPA).¹¹ Conversations surrounding human impacts on the environment are becoming consistently more pressing and fraught, as it becomes increasingly likely that extreme weather and rising global temperatures are being worsened by human behavior.

According to Reuters, July 3, 2023, was the hottest ever day globally, since record keeping started in 1850—the average global temperature reached 62.62 F—and according to Bloomberg Weather & Science, as of July 17, there is an 81% chance that 2023 will be the hottest year ever recorded.¹² The summer of 2023 has also seen a sharp increase in concerns over air quality in the United States, as wildfires in Canada have caused smoke to reach further south than Washington DC. On June 7, 2023, New York City became one of the worst cities in the world in terms of air quality, due to the smoke

¹⁰ NFDA, “Key External Influences,” 6.

¹¹ Brad William Kuchnicki, “Environmental Issues Associated with Crematoria: A Review (PhD diss., Creighton University, 2019), 64.

¹² Gloria Dickie, “World Registers Hottest Day Ever Recorded on July 3,” *Reuters*, July 5, 2023, <https://www.reuters.com/world/world-registers-hottest-day-ever-recorded-july-3-2023-07-04/>. ; Zahra Hijri, “This Year Is Already on Track to Be the Hottest Ever Recorded,” *Bloomberg*, July 17, 2023, <https://www.bloomberg.com/news/articles/2023-07-17/2023-is-already-on-track-to-be-the-hottest-year-ever-recorded>.

blown south from wildfires in Canada.¹³ Additionally, July 2023 saw significant flooding in Vermont and Pennsylvania, as well as much more of the Northeast, in a rash of what AP News dubbed “extreme weather.”¹⁴

Though the focus of industrial change to mitigate climate impacts has largely bypassed the funeral industry up to now, Americans are becoming increasingly more concerned with their environmental impact over their lives and extending that concern to their deaths. People are seeking options that reduce their personal ecological footprint, and in order for effective change to be wrought, not only does the funeral industry have to create space for these alternatives, but it must also embrace them as mainstream choices, and make them more readily available.

1.2 Methodological Approach

The key methodological focuses of the project are those of ethics and ecocriticism, which are supported by examinations of critical vitalism as explored by Jane Bennett, environmental science conceived of through indigenous attitudes towards the earth from Robin Wall Kimmerer, and broad application of the concepts of Harm Reduction as embraced by the medical field, specifically in substance abuse. These underpinning methodologies support the goals of this thesis to emphasize ethical change

¹³ Li Cohen, “New York City Air Becomes Some of the Worst in the World as Canada Wildfire Smoke Blows In,” *CBS News*, June 7, 2023, <https://www.cbsnews.com/news/new-york-city-second-worst-air-quality-in-world-canada-wildfire-smoke/>.

¹⁴ Maryclaire Dale, “Children Lost in Flooding as US Endures Extreme Weather, from Smoke up North to Heat in the West,” *AP News*, July 17, 2023, <https://apnews.com/article/flash-flooding-pennsylvania-deaths-5219b726368ff78879599d7ee1728be6>.

within the funeral industry by providing inroads towards more ethical consideration of the environment as a whole, and frameworks for effective methods of change. The application of these methodologies serves to first identify the negative environmental impacts of the contemporary United State funeral industry, and then the ethical gaps within the industry, before making suggestions for the rectification of the ethical failings, and the mitigation of environmental harms.

Ethics is a broad concept. In order for it to be an effective methodological lens in conjunction with an ecocritical stance when applied to the funeral industry, it must be both narrowed down and applied in a grounded and concrete way. According to the Cornell Law School Legal Information Institute, legally, ethics “defines how individuals choose to interact with one another.”¹⁵ Philosophically, the consideration goes to “what is good for the individual and for society” which then informs the ways in which people are expected to behave.¹⁶ This form of ethics is a specifically anthropocentric view, focusing on the impacts of humans on their surroundings. It also stems from a form of ethics known as Virtue Ethics, which emphasizes the virtues, considerations and behaviors society seeks to cultivate in humans and their treatment of the environment.

Anthropocentric Virtue Ethics form the basis of determining proper guidelines and appropriate considerations proposed in this project. When ethics are considered as the impacts human behavior has on a society defined in broader terms than merely the human element, the behavior of the funeral industry as a whole can be examined from an ethical perspective, not through the lens of the actions of individual funeral directors or

¹⁵ “Ethics,” Legal Information Institute, Cornell Law School, last modified December 2022, <https://www.law.cornell.edu/wex/ethics>.

¹⁶ Cornell, “Ethics.”

embalmers, but by examining commonalities of behavior across the board. In examining the funeral industry as a whole it becomes clear that the practices that are promoted and most heavily utilized result in benefit to one subset of society at the detriment of another. This is evident when looking at the industry's impacts on the human element of society and becomes an even further problem when definitions of society are expanded beyond humans. Examining the ethical impacts on the environment requires turning to the methodology of ecocriticism.

Ecocriticism as a discipline is focused on the study of literature, and the ways in which human interaction with the environment in a physical and cultural sense inform understanding of the current ecological crisis.¹⁷ This is particularly relevant in conversations surrounding the funeral industry as the practices utilized and promoted by the industry engage with and alter the physical environment inherently. A specifically broad field of inquiry, ecocriticism is informed by other disciplines including environmentalism and ecology and infuses these studies with cultural critique in an effort to find solutions to ecological crises facing the modern world. The broadness of the discipline and the different fields ecocriticism draws from leaves room for disagreement on the boundaries of the discipline's purpose. In this thesis, ecocriticism is complicated through the inclusion of material culture and the consideration of the ways in which humans are not the only actants capable of enacting change, and how the material environment communicates with the human element in vibrant ways.¹⁸ Ecocriticism is

¹⁷ Derek Gladwin, "Ecocriticism," Oxford Bibliographies, last modified July 26, 2017, <https://www.oxfordbibliographies.com/display/document/obo-9780190221911/obo-9780190221911-0014.xml>.

¹⁸ Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham: Duke University Press, 2010), ix-x.

especially relevant in discussions of the funeral industry which center on the material impacts of human activity.

In conjunction with the lens of ecocriticism, this thesis relies on the philosophy of critical vitality, a concept which attempts to explore the inherent active nature of objects, extending the idea of agency past humanity and into the sphere of the supposedly inanimate.¹⁹ This examination of agency and status as an *actant*—a being capable of making change to its environment—relies heavily on the political ecology of Vibrant Matter, explored in Jane Bennett’s *Vibrant Matter*. This concept of Vibrant Matter, a philosophy of New Materialism that actively refutes the conception of human beings as divinely more important than the rest of the living world around them, serves to support the environmental considerations being proposed in this thesis beyond their eventual impact on human communities which surround cemeteries and other funeral industry facilities. This conception of humanity as the pinnacle of earthly living beings, set just below divinity in a hierarchy of consciousness is known as the Great Chain of Being, and is a foundational idea within Western philosophy and examinations of ethical behavior. It is refuted in part by the ideas of inanimate matter having a critical vitality that allows them to impact their surrounding environments, and by the Indigenous understanding of the hierarchy of animate beings proposed by Robin Wall Kimmerer. Applied together, these approaches form the basis for an understanding of community, or society, which extends past the human component.

In Robin Wall Kimmerer’s book *Braiding Sweetgrass*, she examines how indigenous ways of thinking consider the environment, and the planet itself, as a member

¹⁹ Bennet, *Vibrant Matter*, 3.

of society which cares for humanity, and must be cared for in turn.²⁰ This provides the second part of the refutation of the Great Chain of Being proposed by Bennett’s *Vibrant Matter*, foregrounding the environment and the planet as equal to humans—and intrinsically linked to their survival—as a caretaker rather than as inanimate land to be claimed and owned. When taken this way, with an extended definition of society that includes the environment surrounding the human element, the question of ethical behavior becomes much broader, with many more distinct recipients of impact to consider. Through the lens that ethical behavior is predicated on what is good for society, and the lens that the environment is an integral part of society, it becomes clear that behavior and practices which cause harm to the environment are inherently unethical. The question remains, however, how can it be determined what level of improvement within the industry constitutes a change towards ethical behavior?

Determination of successful change and improvement can be measured incrementally using the Harm Reduction model. Harm Reduction recognizes that drug use—and the attendant harm associated with it—is an inevitable part of society and attempts to mitigate the additional harm without fruitlessly trying to eliminate an inevitability.²¹ Valuing improved quality of life over immediate and permanent cessation of drug use, Harm Reduction recontextualizes any progress as a net positive, rather than casting incremental steps as not enough or not worthwhile.²²

²⁰ Robin Wall Kimmerer, “Maple Nation: A Citizenship Guide,” in *Braiding Sweetgrass*, (Canada: Milkweed Editions, 2013), 167-175.

²¹ “Principles of Harm Reduction,” National Harm Reduction Coalition, <https://harmreduction.org/about-us/principles-of-harm-reduction/>.

²² National Harm Reduction Coalition, “Principles of Harm Reduction.”

To apply the same framework to the funeral industry, death must be considered the inevitability, and the ecological impacts of the contemporary funeral industry the attendant harm surrounding it. Because death is always going to be an inevitable reality of living, there is no way to completely eliminate the origin of harm. Instead, the reduction of environmental impacts through the changing of human behavior, eschewing popular yet harmful practices, and embracing new and greener deathcare technologies removes at least some of the attendant harm associated with death. Because the long view of harm reduction takes incremental progress as a net positive, even small changes made by the funeral industry will bring it more in line with ethical behavior, which is ultimately better than making no change at all.

Utilizing the methodologies of harm reduction and critical vitality in conjunction with the work presented by Robin Wall Kimmerer on Indigenous knowledge combined with Western environmental science as inroads to Ecocriticism and discussions of Anthropocentric Virtue Ethics, this project brings together several disparate fields of study, and explores the environmental impacts of cemeteries and the United States funeral industry in an interdisciplinary way. Underpinning all of these methodologies is a basis of material culture study, which emphasizes the ritual, cultural, and human value of the physical artifacts of the funeral industry. The material culture lens when combined with each of these methodologies serves to ground the project in the importance of cemeteries, and center the recommendations made on their improvement in service of their preservation rather than the destruction of the industry. The Literature Review examines the state of the field surrounding cemeteries and their environmental impacts, as well as the methodologies presented here, providing context for the rest of the project.

Chapter 2

Literature Review

Green funeral practices are emerging as a center point of ongoing and complex conversations surrounding the history of deathcare in the United States and the responsibility of humans to the environments they live in, with emergent science and new technologies highlighting the avenues the industry, and American society, have for future growth. These conversations build on larger questions of ethical interaction with the environment on a societal level and are predicated on multiple vast and complex bodies of research that extend back decades.

The work relating to environmental interaction with cemeteries and funerals in the United States develops out of a broad history of cemeteries in America more generally—a history that focuses on the cemetery and funeral as a cultural institution, as well as professional service industry to the public. This work also stems from decades' worth of environmental science, particularly relating to ecological conservation and interactions between human behavior and the environments surrounding it.

In relation to the green death movement and its intersection between the disciplines of cemetery studies and environmental science, the literature review for this thesis will analyze the development of the field of study of the green death movement as predicated on the environmental and cultural histories of cemeteries within the United States, and scientific research into the environmental impacts of contemporary funeral practices. Additionally, this literature review provides an overview of the literature utilized that examines ethical principles drawn from political ecology, Indigenous belief

systems, and harm reduction practices. The discussion of literature as presented here attempts to lay out the existing intersections of environmental science, ethical principles, and funerary history in the United States, and highlight the gaps around the intersections. As this thesis ultimately presents recommendations for improving environmental ethics of funerals in the United States at an industry level it is important to situate these recommendations within the larger context of already ongoing conversations surrounding the work of the movement.

There are also legal and industrial elements to the literature present surrounding the subject of emergent funerary practices which consider the environment. Promotional materials regarding newly developed technologies, and the legislation surrounding their legalization at the state level across the country play an important role in the dispersal of information to the public.

2.1 Overview of Scholarship

In examining the literature surrounding cemeteries and the environment, it is important to first lay out the common lenses of death history in the United States, and the history of environmental deathcare there within. A foundational portion of the scholarship surrounding death and cemeteries in the United States examines the cultural history of the topic, as well as the development of contemporary funeral practices. This developmental portion of the literature review focuses on deathcare practices in the United States that grew out of the tragedy of the Civil War, and the attitudes towards death and dying that the conflict shaped. This subset of cemetery history does not necessarily engage in heavy criticism of the funeral industry, rather it explores the

conditions of historical funerals in the United States and the basis for the contemporary funeral industry.

Critiques of the industry, particularly from a consumerist standpoint, start in the 1960s, when Jessica Mitford published *The American Way of Death*. Mitford opened a new facet of the conversation surrounding the funeral industry in the United States, and critical conversations have since expanded past her consumerist roots and into other areas of study. Most notably, especially for this thesis, is that of environmental critique of contemporary funeral practices. Environmental critiques began on a broader scale and have continued to increase in specificity and scope since. The literature presented here follows this basic trajectory of the larger field, first introducing the development of the American funeral, before moving into critiques of the industry and introducing new and continuing literature on environmental critiques of both contemporary practices and the industry as a whole.

Drew Gilpin Faust's *This Republic of Suffering: Death and the American Civil War* provides an in-depth understanding of the changing cultural landscape of death surrounding the Civil War, and the resulting rise of embalming and professionalization of the funeral industry.²³ *This Republic* examines the ways that the Civil War changed American understandings of death and dying, who should die, and who should handle death, through the abrupt changes to rates of mortality by age and gender caused by the drafting of young men into battle, and the subsequent restructuring of the responsibility of deathcare in the United States during and directly after the conflict.²⁴ Gary Laderman's

²³ Drew Gilpin Faust, *This Republic of Suffering: Death and the American Civil War* (New York: Vintage Books, 2008), 87.

²⁴ Faust, *This Republic of Suffering*, 9.

books *The Sacred Remains: American Attitudes Towards Death, 1799-1883*, and *Rest in Peace: A Cultural History of Death and the Funeral Home in Twentieth Century America* provide further context to the cultural history of human remains.

In *The Sacred Remains*, Laderman examines the American understanding of death from a similar standpoint as Gilpin Faust, tracking the construction of the ‘American way of death’ from the death of President Washington through the mass casualties of the Civil War.²⁵ Laderman also provides further context for the professionalization of the funeral industry, the removal of deathcare responsibility from the family, and the increased scientific attitude towards death informed by public health concerns, with particular attention on the Civil War as a turning point in the timeline.

In *Rest in Peace*, Laderman continues the inquiry of the professionalization of the funeral industry after the Civil War and into the twentieth century.²⁶ Here, Laderman takes exception to the work of Jessica Mitford, and her indictment of the profession of funeral directing. Rather, Laderman examines the ways in which the modern funeral director fills a gap that Americans, now unacquainted with the practice of deathcare for a century at the time of Mitford’s publishing, were unable to fill themselves in providing funeral service for their loved ones.²⁷ This examination of the cultural history of the funeral home and the impacts of Mitford’s critiques on the attitudes of industry professionals provides context to contemporary approaches of the industry toward

²⁵ Gary Laderman, *The Sacred Remains: American Attitudes Towards Death, 1799-1883* (New Haven: Yale University Press, 1996), 7.

²⁶ Gary Laderman, *Rest in Peace: A Cultural History of Death and the Funeral Home in Twentieth Century America* (New York: Oxford University Press, 2003), xxii.

²⁷ Laderman, *Rest in Peace*, 44.

emergent deathcare, and the attached implication that new practices mean the traditional industry has been historically wrong.

Thomas Laqueur's 2015 work, *The Work of the Dead: A Cultural History of Mortal Remains*, examines the ways in which the necessary relationship between the living and the dead has developed. Laqueur examines the ways in which the corpse *matters* and why even in disparate societies—different ideologically, theologically, and philosophically—the care and respect of human remains is a central portion of interacting with death.²⁸ This understanding of the interaction with remains in a respectful manner as an inherent part of deathcare and funeral practice is important to the development of the funeral industry and standard practices, as questions of respectful disposition versus condemnable desecration arise each time new practices are developed.

Prominent research regarding subsets of practices, particularly cremation and embalming, within the funeral industry are examined through Stephen Prothero's discussion of cremation in *Purified by Fire: A History of Cremation in America*, and John Troyer's essay, "Embalmed Vision," in the journal *Mortality*. Prothero examines the changing attitudes in American culture towards cremation from its modern inception in the United States in 1876, to the turn of the twenty-first century.²⁹ A cultural and religious history as much as it is a history of the facts of cremation, Prothero examines the sharp rise in American cremation rates between the 1960s and the 1990s, and the practice's dynamic existence as a contemporarily new alternative to burial—prior to the

²⁸ Thomas Laqueur, *The Work of the Dead: A Cultural History of Mortal Remains* (Princeton: Princeton University Press, 2015), 1.

²⁹ Stephen Prothero, *Purified by Fire: A History of Cremation in America* (Berkeley, Los Angeles: University of California Press, 2001): 12.

standardization as a ritual practice it enjoys today.³⁰ Prothero's examination of the development of cremation as a new American way of death provides historical and cultural context for the ways in which American society embraces emergent technologies, and contextualizes contemporary reactions to Natural Organic Reduction, especially the ways in which fearmongering and appeals to religiosity play into resistance to new methodologies.

Troyer's work on embalming presents a social history of the development of the new technology, and how it encouraged an entirely new form of death in the United States.³¹ Emphasizing how the alteration of the corpse through embalming was about more than the impediment of decay, and created an entirely new understanding of the human corpse—one that remained looking “properly human” and avoided the realities of death and decay.³² This adoption of the new human corpse contributed to the contemporary understanding of appropriate treatment of human remains, an understanding first altered through the acceptance of cremation, and now undergoing another alteration through the emergence of technologies that prioritize natural decay rather than impede it.

Stanley French's Essay, “The Cemetery as Cultural Institution: The Establishment of Mount Auburn and the ‘Rural Cemetery’ Movement” in *Death in America*, edited by David Stannard which focuses on the history of Mount Auburn Cemetery in Boston Massachusetts, and the resulting development of the rural cemetery across the United States examines the ways in which the contemporary cemetery furthered industrialization

³⁰ Prothero, *Purified by Fire*, 3.

³¹ John Troyer, “Embalmed Vision,” *Mortality* 12, no. 1 (2007), 23.

³² Troyer, “Embalmed Vision,” 23.

of funerals and deathcare within the country. French presents a case for the development of the cemetery as a space for public engagement with nature that predates the formation of the National Park Service.³³ This interaction with nature French cites as important to the spiritual lives of Americans resonates with modern proponents of natural burial, who frequently reference a sense of spirituality and purpose the work towards access for their own natural burial imbues them with.³⁴

Literature on green deathcare in the United States is a further subset of the cultural and environmental histories of cemeteries and the funeral in America. Mark Harris' 2007 work, *Grave Matters: A Journey Through the Modern Funeral Industry to a Natural Way of Burial*, lays out an examination of the contemporary U.S. funeral options, before exploring available alternatives chapter by chapter through biographical accounts of individuals who made alternate choices.³⁵ *Grave Matters* acts as a critique of the funeral industry in the vein of Jessica Mitford's 1963 *The American Way of Death*, and the revisited edition published posthumously in 1998. Mitford laid out the foundations of academic critique of the U.S. funeral industry, homing in on the economic ethics of funeral directors and predatory practices foisted upon a public with limited knowledge.³⁶ Her argument was that the funeral industry pushed unnecessary costs for funeral services onto grieving families—who had limited knowledge of their options for deathcare—in

³³ Stanley French, "The Cemetery as Cultural Institution: The Establishment of Mount Auburn and the "Rural Cemetery" Movement," in *Death in America*, ed. David Stannard (University of Pennsylvania Press, 1975), 79.

³⁴ *A Will for the Woods*, Directed by Amy Browne, Jeremy Kaplan, Tony Hale, and Brian Wilson (2014, Reading, PA: Bullfrog Films) 21:02, <https://docuseek2-com.ezproxy.lib.vt.edu/bf-will2>.

³⁵ Harris, *Grave Matters*, 12.

³⁶ Mitford, *The American Way of Death Revisited*, 33.

the name of driving profits higher, and her critique pushed for both transparency within the industry, and oversight and regulation to reduce costs to families.³⁷ Harris expands on Mitford's critique beyond the economics of the modern funeral industry, and into the question of environmental responsibility. Though his work is grounded in the ethical treatment of consumers by arguing for providing access to alternative practices, Harris' emphasis on the environment and the industry's responsibility for preserving it remains central to the stories he shares.

Additional coverage of the green funeral movement and its critique of the U.S. funeral industry can be found in Suzanne Kelly's 2015 book, *Greening Death: Reclaiming Burial Practices and Restoring Our Tie to the Earth*, and Lucinda Herring's 2019 work, *Reimagining Death: Stories and Practical Wisdom for Home Funerals and Green Burials*. Written prior to the development of NOR, *Greening Death* examines the ways in which natural burial is the ultimate environmentally friendly death, with cremation a close second.³⁸ Ultimately, Kelly examines the ways in which the world has changed since the conception of 'dust to dust' was the standard—how the funeral industry exemplifies the way humans' relation to the planet has changed.³⁹ Arguing for a future-facing reengagement with the planet, Kelly makes the case for the funeral industry being a crucible for an overhaul of the ways humans consider their responsibility to the earth, couched in a "return" to the standards of natural burial, and a reclamation of traditional practices that predate the professionalism of the industry.⁴⁰

³⁷ Mitford, *The American Way of Death Revisited*, 35; 311.

³⁸ Suzanne Kelly, *Greening Death: Reclaiming Burial Practices and Restoring Our Tie to the Earth*, (Lanham, MD: Rowman & Littlefield Publishers, Incorporated, 2015), 5.

³⁹ Kelly, *Greening Death*, 5.

⁴⁰ Kelly, *Greening Death*, 9.

Published in 2019, after the introduction of NOR, *Reimagining Death* proposes similar coverage of the funeral industry and greener options to that of Harris' *Grave Matters*, though rather than introduce emergent practices and methodologies chapter by chapter, Herring works through advocacy for green funeral practices conceptually.⁴¹ Herring's work emphasizes "turning towards death," not only in acknowledging that we will die and preparing for it practically, but in embracing the emotional and spiritual work that goes into caring for ones' own dead, and engaging in green, home-based practices as a way of reconnecting with the way death used to be handled in the United States.⁴² In this vein, Herring and Kelly lend clarity to the conversations surrounding contemporary green funeral practices as a return to previous traditions.

More contemporary examinations of recent advances in the funeral industry come from several different angles. Academic exploration of emergent technologies within the funeral services, and social movements within deathcare can be found in Philip R. Olson's "Flush and Bone: Funeralizing Alkaline Hydrolysis in the United States" and "Domesticating Deathcare: The Women of the U.S. Natural Deathcare Movement," which focus respectively on the funeralization of Alkaline Hydrolysis, or the acceptance of the process as a method for ritual disposal of human remains, and the women-led home funeral movement—which emphasizes a return of the responsibility of deathcare to families, and pushes for the dismantling of the industrial funeral model.⁴³ Olson's

⁴¹ Lucinda Herring, *Reimagining Death: Stories and Practical Wisdom for Home Funerals and Green Burials*, (Berkeley: North Atlantic Books, 2019), 22.

⁴² Herring, *Reimagining Death*, 25.

⁴³ Philip R. Olson, "Flush and Bone: Funeralizing Alkaline Hydrolysis," *Science, Technology, & Human Values* 39, no. 5 (2014), 672.
<https://www.jstor.org/stable/43671194>. ; Philip R. Olson, "Domesticating Deathcare: The

examinations into technology and the social movements highlight both the ways in which emergent practices are accepted in the United States, and in which social movements seek to reject the professionalized funeral industry in favor of community-based deathcare.⁴⁴

Olson’s argument around the funeralization of Alkaline Hydrolysis is particularly relevant to the current funeralization of NOR, and how processes perceived as industrial take time to integrate into the ritual mindset surrounding funeral services and deathcare.⁴⁵

Additional information on emergent practices can primarily be found through educational and advocacy groups for the advancement of such practices, such as the Green Burial Council (GBC), the Order of the Good Death, and the Funeral Consumers Alliance, as well as through promotional materials provided by new alternative service providers within the funeral industry. The Green Burial Council specifically is an invaluable source of information surrounding the requirements and certification regarding the development of new natural burial sites across the country, as they are the primary regulatory and overseeing body within the industry. Though the information should be carefully considered—as they have a vested interest in the promotion of the practice—they remain one of the most reliable sources for updates on the advancement of alternative deathcare in the United States, as well as potential legislative and regulatory challenges to emergent technologies at the state level across the country.⁴⁶ The GBC also

Women of the U.S. Natural Deathcare Movement,” *Journal of Medical Humanities* 39, no. 2 (June 2018), 197. <https://doi.org/10.1007/s10912-016-9424-2>.

⁴⁴ Olson, “Flush and Bone,” 667. ; Olson, “Domesticating Deathcare,” 208.

⁴⁵ Olson, “Flush and Bone,” 667.

⁴⁶ “GBC Quick Facts,” Green Burial Council, <https://www.greenburialcouncil.org/gbc-quick-facts.html>.; “Statement on Minnesota’s Green Burial Moratorium,” Green Burial Council, July 10, 2023, <https://www.greenburialcouncil.org/>.

produces publications on emergent practices and the environmental development of the funeral industry, with an emphasis on promoting greener deathcare.⁴⁷

Primarily educational groups such as the Funeral Consumers Alliance (FCA) and the National Home Funeral Alliance (NHFA), provide focused updates and oversight of the funeral industry, intended to raise consumer awareness of alternative choices and deathcare outside of the funeral industry norms. Though their work is also considered advocacy, their focus is on consumer support and therefore has less of a bent towards environmentalism.⁴⁸ The FCA and the NHFA both promote consumer awareness of the funeral industry as an individual asset to productively working with the contemporary funeral industry to attain the deathcare one wants—while this includes support for the legalization of alternative practices, it does remain within the framework of the mainstream industry.⁴⁹

Additional activism and advocacy focused groups, such as the Order of the Good Death, also provide information regarding the state of the funeral industry and the legislative challenges facing emergent technologies across the country.⁵⁰ The Order of the Good Death is run by a group of funeral industry professionals, legal experts, and cultural historians with a vested interest in changing the industry from the inside, and should be

⁴⁷ “GBC Publications,” Green Burial Council, https://www.greenburialcouncil.org/recommended_reading.html.

⁴⁸ “About Funeral Consumers Alliance,” Funeral Consumers Alliance, <https://funerals.org/about/>; “Our Vision & Values,” National Home Funeral Alliance, <https://www.homefuneralalliance.org/our-vision--values.html>.

⁴⁹ FCA, “About Funeral Consumers Alliance.” ; NHFA, “Our Vision & Values.”

⁵⁰ “Our Story,” Order of the Good Death, <https://www.orderofthegooddeath.com/our-story/>.

regarded similarly to the Green Burial Council—as a reliable source of information, though one with a particular bent towards the changing of the industry.⁵¹

In the vein of new industry players being key sources of information regarding the development of new technologies, Recompose, a Seattle, WA Natural Organic Reduction facility established in 2017 is the leading source of proprietary information surrounding the practice. The Recompose team also provides information on the continued push for legislation of the practice across the country. Recompose, and other NOR facilities remain tight lipped about the more proprietary aspects of the practice and seek to emphasize the “gentleness” and “naturalness” of the emergent technology, which leads to some avoidance of the mechanical realities of the process, such as the necessity of mechanical agitation of the compost to ensure even decomposition. This slight lack of transparency mirrors the conditions of the mainstream industry in some ways and does mean that the information coming from NOR facilities, should be considered with a certain amount of skepticism, as it remains promotional in nature, rather than primarily educational. Katrina Spade, founder of Recompose, has been extremely forthcoming and open about the years of research that went into the development of NOR, and the why behind it however, with an emphasis on educating the public to understand and embrace the process, even without knowing all of the granular details.⁵²

Return Home, another NOR facility in Washington state also provides promotional information surrounding the practice, and advocacy information to

⁵¹ “Staff,” Order of the Good Death, <https://www.orderofthegooddeath.com/staff/>.

⁵² “Recompose Founded,” History, Recompose, <https://recompose.life/who-we-are/#history>. ; Catrin Einhorn, “A Project to Turn Corpses Into Compost,” *New York Times*, April 13, 2015, <https://www.nytimes.com/2015/04/14/science/a-project-to-turn-corpse-into-compost.html>.

consumers interested in helping to legalize the practice. The academic literature surrounding NOR is young, and it remains to be seen what further research will bear out surrounding the process. It is clear however, that detractors of the new practice generally come from a theological lens and are mirroring similar sentiments originally raised about now standard practices, including cremation.⁵³ Additional context for both traditional and alternative funerary practices comes from the Cremation Association of North America (CANA), an industry organization that seeks to educate providers and consumers on deathcare practices and services.⁵⁴

Natural burial as a specific subset of the green funeral industry has existed in the United States since 1998, when the first burial in South Carolina’s Ramsey Creek Preserve occurred. Ramsey Creek, and Memorial Ecosystems—the corporation established by Ramsey Creek founders for continued management of the preserve—remain prominent sources of information regarding the expansion of the practice, and the related expansion of environmental conservation through the funeral industry.

Ellen Tripler’s 2011 documentary on the establishment of and rationale behind Ramsey Creek, *Dying Green*, examines the development of America’s first modern natural burial site, and the progress towards acceptance from original wary concern in Westminster, South Carolina.⁵⁵ *Dying Green* is a succinct and effective introduction to

⁵³ Dawn Turpin, “The Problem with Human Composting,” *Ethics and Medics* 48, no. 5 (2023), 3. <https://doi.org/10.5840/em20234859>.

⁵⁴ “About CANA,” Cremation Association of North America, <https://www.cremationassociation.org/page/AboutCANA>.

⁵⁵ *Dying Green: Natural Burial and Land Conservation*, Directed by Ellen Tripler (2011, Mill Valley, CA: Green Planet Films) 3:40, <https://video.alexanderstreet.com/watch/dying-green-natural-burial-and-land-conservation>.

the *why* of natural burial—the environmental appeal, and the appeal of continued human connection to the deceased both throughout and after the process.

The *why* of natural burial is built upon in the 2014 documentary *A Will for the Woods*, which follows the advocacy journey of Dr. Clark Wang for a natural burial site in Wake Forest, North Carolina—as he dies of lymphoma. Perhaps Dr. Wang puts it most elegantly, “this [being buried naturally] is a far more spiritual use of my body remains than to have them be encased in some kind of pointless tomb. It preserves and protects wooded green land...”⁵⁶ Clark, and his wife Jane’s journey begins as one of environmental concern, spurred by the reconsideration of human beings’ relationship to the environment following his cancer diagnosis, and turns into a personally spiritual exploration of what it means to naturally bury one’s remains when we die.⁵⁷

The Wangs’ initial ethical concern for the environment, combined with the turn towards personal spirituality and connectedness with nature, is mirrored in the theoretical literature underpinning this thesis. The desire to return to the earth in a way that completes a cycle of taking and giving in equal measure with other organic matter undermines the philosophy of the Great Chain of Being.

The Great Chain of Being extends back as a theory to Plato, and through theological reasoning within Christianity, wherein humans exist on a progressive hierarchy with all beings as above other organic matter but below the divine.⁵⁸ The

⁵⁶ *A Will for the Woods*, 11:22.

⁵⁷ *A Will for the Woods*, 20:40.

⁵⁸ “Great Chain of Being,” New World Encyclopedia, https://www.newworldencyclopedia.org/entry/Great_Chain_of_Being. ; “Great Chain of Being,” Philosophy & Religion, Britannica, <https://www.britannica.com/topic/Great-Chain-of-Being>.

equation of humans to their surroundings, in their ability to act and enact change, is instead pulled particularly from Jane Bennett's 2010 work, *Vibrant Matter: a Political Ecology of Things*, which argues for the thing-power of materiality, or the ability of the inanimate to have effects on its surroundings.⁵⁹ Vital materiality, or critical vitality, as argued by Bennett, presents the understanding that the lines between inanimate, inhuman, thing, and animate, human, actant, are blurrier than may be suggested in a hierarchical mode of thinking, and that all types of materiality are "vital players in the world."⁶⁰

An extension of this vibrant materiality, and recognition that the environment plays an active role in society and community comes from Robin Wall Kimmerer's 2013 work, *Braiding Sweetgrass*. Kimmerer argues for the recognition of the care provided by the environment towards human beings, and a responsibility to care in turn, and return care through our lives in a concept of 'reciprocity.'⁶¹ Reciprocity informs not only the choices being made by many individuals to participate in alternative funeral methods like natural burial but expands the definition of society on which impacts must be considered through an ethical lens. This expansion uses a philosophical conception of ethics, rather than a legal conception, relating to 'what is good for society,' which is furthered by borrowing from the Harm Reduction model of substance abuse rehabilitation.⁶²

Harm Reduction as a concept argues for the reduction of attendant harm surrounding the reality that drug use is inevitable. It seeks to make positive incremental changes improving the quality of life of addicted individuals without requiring an

⁵⁹ Bennett, *Vibrant Matter*, 3.

⁶⁰ Bennett, *Vibrant Matter*, 4.

⁶¹ Robin Wall Kimmerer, "Epiphany in the Beans," in *Braiding Sweetgrass*, (Canada: Milkweed Editions, 2013), 123.

⁶² Cornell, "Ethics."

ultimatum of complete and immediate sobriety. The National Harm Reduction Coalition is the primary source of advocacy work and information surrounding the concept and provides education to the public on the principles of the methodology in the United States. The concept is both a psychological tool, and a social support system, modeled after drug response programs in the Netherlands, developed in part as a response to stringency and ineffectiveness of “zero tolerance” policies, and expanded internationally as a response to the incidence of AIDS in injection drug users.⁶³ Prominent guiding literature surrounding Harm Reduction includes *Harm Reduction: National and International Perspectives*, containing essays on the history, development, and implementation of Harm Reduction programs internationally in the 1990s.

More contemporary research into the concept comes from journals of mental health, psychology, and governing bodies within the United States such as the National Institute for Health, and the National Institute for Mental Health.⁶⁴ The key takeaway from this research that can be applied to the funeral industry in the United States is the concept of incremental changes leading to overall improvement of negative conditions. This is applied throughout this thesis in the form of recommendations for improvements on a smaller scale in the funeral industry which will lead to broad embrace of alternative practices, and large-scale change to the American way of death.

⁶³James A. Inciardi. Lana D. Harrison, “Introduction: The Concept of Harm Reduction,” in *Harm Reduction: National and International Perspectives*, ed. James A. Inciardi. Lana D. Harrison (Thousand Oaks: Sage Publications, 2000): viii. ; Diane Riley, Pat O’Hare, “Harm Reduction: History, Definition, and Practice,” in *Harm Reduction: National and International Perspectives*, ed. James A. Inciardi. Lana D. Harrison (Thousand Oaks: Sage Publications, 2000): 1.

⁶⁴ Coulson, Hartman, “What is Harm Reduction?”

Additional ethical frameworks surrounding the funeral industry in the United States come from legislation regarding funeral services and deathcare. Tanya Marsh, Professor of Law at Wake Forest University, is a key figure in this area. Her work *The Law of Human Remains* is one of the primary sources regarding legality within the funeral industry within the last decade. Marsh examines the murky legality of handling human remains, and the ways in which remains raise questions regarding the living's responsibility to act.⁶⁵ Marsh covers the existing laws and provides an analytical framework for the ways legislation regarding the dead body comes to be as new laws are needed. Particularly important, Marsh covers the ways in which laws regarding people and laws regarding things come to settle around human remains, and the complicated place they occupy in the U.S. legal system.⁶⁶

Marsh also produces a podcast available to the public called *Death, et seq.* which seeks to introduce the public to the complicated world of funeral law in an accessible way, so they may understand their legal rights and responsibilities surrounding funerals.⁶⁷ Additionally, Marsh works closely with emergent alternative service providers and advocacy groups such as the Order of the Good Death to assist in their navigating the legislative and regulatory world surrounding deathcare.⁶⁸

Further information regarding the ethics of deathcare in the U.S. comes from state legislation enacted surrounding emergent practices, and from industry internal groups

⁶⁵ Tanya Marsh, *The Law of Human Remains* (Tucson: Lawyers & Judges Publishing, 2015), 1.

⁶⁶ Marsh, *The Law of Human Remains*, 2.

⁶⁷ "About Us," *Death, et seq.*, <https://deathetseq.com/about/>.

⁶⁸ "Tanya Marsh, JD," *Recompose*, <https://recompose.life/team/tanya-marsh-jd/>. ; "Founding Members," *Order of the Good Death*, <https://www.orderofthegooddeath.com/founding-members/>.

such as the National Funeral Directors Association, which operates as a guiding body for mainstream funeral industry professionals. The NFDA provides education, certification, and advocacy work to current funeral industry professionals, from a standpoint of benefiting the industry and addressing the challenges faced by professionals from attempted changes to the industry.⁶⁹ Each year, the NFDA publishes an annual Cremation & Burial Report for members, which examines the shifts in funeral service trends, external factors influencing the industry, changes in disposition option rates, and the future of profits in the funeral sector.⁷⁰ The NFDA operates as an advocate for the maintenance of the mainstream corporate funeral industry, working to represent the interests of current professionals, and is a valuable resource for establishing current conditions and trends surrounding accepted and standard practices.

This thesis is also supported by environmental research into the pollution effects of funerary practices, including historical embalming, casketed burial, and combustion cremation. Studies produced by federally associated institutions into the impacts of cemeteries on the environment are rare. The United States Geological Survey and the Department of the Interior produced a Preliminary Investigation of Groundwater Quality near a Michigan Cemetery with the cooperation of the Lansing Board of Water and Light and the Lansing Wellhead Protection Team from July 2016 – December 2017 in which they examined contaminants leaching into groundwater surrounding the Mount Hope

⁶⁹ “Advocacy Overview,” Overview, National Funeral Directors Association, <https://nfda.org/advocacy/overview>.

⁷⁰ *2021 NFDA Cremation & Burial Report*, July 2021. ; *2022 NFDA Cremation & Burial Report*, July 2022.

Cemetery in Lansing.⁷¹ This survey is some of the most recent research surrounding cemetery leachate in the United States, and provides evidence that both modern and historical burials present contamination concerns to groundwater surrounding cemeteries. This contamination potential is concerning both for its impacts on humans living in the areas around cemeteries, especially relating to the presence of arsenic exceeding safe levels as regulated by the EPA.⁷²

Another recent survey of cemetery pollution which raises concerns about historical contaminants having contemporary effects comes from a December 2020 article in *Advances in Archaeological Practice*—Arsenic and Old Graves: A Method for Testing Arsenic Contamination in Historic Cemeteries—that examines the presence of historical arsenic in cemeteries which exceeds safe standards.⁷³ This examination focuses on the danger posed to archaeologists and other researchers when conducting testing within historical cemeteries, but its publication provides further evidence of the presence of contaminants within the environments of cemeteries, lending credibility to concerns over conservation and care for the environment itself.

Additional environmental research regarding cemeteries and cremation has been published globally, including a recently published study into atmospheric pollutants from

⁷¹ Angela K. Brennan et al., “Preliminary Investigation of Groundwater Quality near a Michigan Cemetery, 2016-17,” USGS Scientific Investigations Report 2018-5120, 1.

⁷² Brennan et al., “Groundwater Quality,” 11. ; “Arsenic Occurrence in Public Drinking Water Supplies,” United States Environmental Protection Agency, *EPA-815-R-00-023* (December 2000), 19. ; “Drinking Water Regulations,” Drinking Water Requirements for States and Public Water Systems, United States Environmental Protection Agency, last modified September 20, 2022, <https://www.epa.gov/dwreginfo/drinking-water-regulations>.

⁷³ Maureen S. Meyers, David Breetzke, Henry Holt, “Arsenic and Old Graves: A Method for Testing Arsenic Contamination in Historic Cemeteries,” *Advances in Archaeological Practice* 9, no. 1 (2020): 3, DOI:[10.1017/aap.2020.41](https://doi.org/10.1017/aap.2020.41)

crematoria in Mexico City in August – December 2017, and a review published in 2022 of global cemetery and crematoria pollution, which did not include examinations within the United States.⁷⁴ While the specific scientific and numerical results of global studies of crematoria and cemeteries outside the United States have little relevance to the pollution caused by the U.S. funeral industry, the presence of the research and the consistency of the results displaying a need for further environmental oversight and regulation provide strong support for more regular monitoring of the U.S. industry, and updated studies on the impacts cemeteries and crematoria in the United States have on the environment.

Additional studies performed historically on the environmental impacts of cemeteries in the United States retain their relevance and inform current further research, as they provide a baseline for contamination concerns. “Drinking Grandma: The Problem of Embalming” is one such article, produced in 2008 and published in the *Journal of Environmental Health* by the National Environmental Health Association (NEHA).⁷⁵ “Drinking Grandma” presents the concerns of cemetery contamination specifically as potential danger for people living around cemeteries, with a secondary focus on the damage to the environment that pollutants do regardless of human presence. The critique

⁷⁴ Griselda González-Cardoso, Janai Monserrat Hernández-Contreras, Brenda Liz Valle-Hernández, *et al.*, “Toxic atmospheric pollutants from crematoria ovens: characterization, emission factors, and modeling,” *Environ Sci Pollut Res* **27**, 43800–43812 (2020). <https://doi.org/10.1007/s11356-020-10314-0>. ; Dison SP. Franco, Jordana Georgin, Luis Angel Villarreal Campo, *et al.*, “The environmental pollution caused by cemeteries and cremations: a review,” *Chemosphere*, 307 no. 4, 1-13 (2022). <https://doi.org/10.1016/j.chemosphere.2022.136025>. ; Alcindo Neckel, Carlos Costa, Débora A. Nunes Mario, *et al.*, “Environmental Damage and Public Health Threat Caused by Cemeteries: A Proposal of Ideal Cemeteries for the Growing Urban Sprawl,” *Brazilian Journal of Urban Management* **9**, 216-230 (2017). DOI:[10.1590/2175-3369.009.002.ao05](https://doi.org/10.1590/2175-3369.009.002.ao05)

⁷⁵ Jeremiah Chiappelli and Ted Chiappelli, “Drinking Grandma: The Problem of Embalming,” *Journal of Environmental Health* **71**, no. 5 (December 2008): 25.

of embalming as both a historical and contemporary practice presented in this article creates a starting point for further research, by indicating early—in comparison to research performed a decade later—concerns over contamination occurring from cemeteries and embalmed remains. Similar to the importance of research from global cemeteries and crematoria, the presentation of this research indicates the need for further updated studies, as conditions are unlikely to have improved without intervention in the decade and a half since 2008.

2.2 Summary

The literature laid out in this review examines the ways in which the funeral industry developed into its contemporary form, the changing role of funeral professionals in comparison to families and the public, and the development of the green funeral movement as a subset of the funeral industry. Literature from additional disciplines, including law, psychology, and environmental science lays out the underpinnings of the recommendations made in this thesis, in an effort to close the gaps in the interdisciplinary area of environmental ethics within the funeral industry. The contours of this literature are varied, as the work that forms the basis of this thesis comes from a variety of disciplines that intersect in complex ways and make up more than one field of study. Each of these underlying disciplines has its own vast body of research, and the literature presented represents only a fraction of the available information, with emphasis placed on the locus of intersections between disciplines in ways that have not been previously considered.

Chapter 3

Historical Survey of the United States Funeral Industry

The contemporary American funeral industry has a long and complex history, which is complicated further by notions of race, class, and immigrant status. The primary concern of this thesis is the lack of environmental ethics within the funeral industry today, and therefore the key history focuses on the environmental impacts of the past. This chapter examines the ways in which environmental concerns have intertwined with the development of the modern funeral industry, both through the development of cemeteries and conventional disposition methods. Industrialized funeral care played a large role in the eschewing of environmental cooperation that used to be inherent in home-based deathcare pre-Civil War, and this chapter tracks the changes to the industry that have contributed to its current state. This history provides context for how the improvements recommended in this work are meant to further a long tradition of innovation in how the United States cares for its dead and encourage the funeral industry to remain dynamic and collaborative with surrounding communities in its continued development.

Cemeteries in the United States began as family plots on private property, which were cared for in perpetuity by descendants living in their generational home. This form of cemetery was a natural extension of the fact that deathcare pre-Civil War was performed at home and was a family affair out of necessity. This un-industrialized form of deathcare lent itself to a simple and inherently more environmentally friendly process.

The body would be washed and prepared for burial by female relatives, while a coffin of untreated wood was constructed by male family members, or perhaps a local community furniture maker.⁷⁶ Because the remains were to be buried on the family's property, their transport incurred no additional environmental costs. This care for the deceased was an important part of the grieving process for the living, and the continued maintenance of the graves on family land connected generations to one another, providing a sense of heritage and place in a largely less mobile society.

As the Industrial Revolution continued to mobilize society however, the private family plot became a liability regarding the connection to one's heritage. If a younger generation all moved away from the private property, not only would they lose their connection to their ancestors, but they would also have no way of ensuring that the new property owners would maintain their family's graves. Additionally, the existing public churchyard burial grounds were unequipped to hold the number of dead a city would produce, which led to unpleasant conditions for mourning.⁷⁷ The solution to this problem was the creation of the public cemetery, where families could pay to inter loved ones and have perpetual access to the graves, even if they or their descendants moved from the area.⁷⁸

Mt. Auburn, outside Boston, MA, is widely, though incorrectly, regarded as the first of the public Rural Cemeteries.⁷⁹ Mt. Auburn brought the concept into the public

⁷⁶ Laderman, *Sacred Remains*, 157.

⁷⁷ French, "The Cemetery," 74.

⁷⁸ French, "The Cemetery," 75.

⁷⁹ French, "The Cemetery," 75. ; The first "rural cemetery" in the United States was actually the New Burying Ground in New Haven, CT. It has since been renamed Grove Street Cemetery. "Historic Grove Street Cemetery," Grove Street Cemetery, <https://grovestreetcemetery.org>.

consciousness by being the first widely successful rural cemetery and inspiring other cities and states to implement their own.⁸⁰ Located four miles outside the city limits of Boston MA, Mt. Auburn was established in 1831 as a project that intended to make cemeteries in Boston overall more pleasant and sustainable.⁸¹ Along with the promise of perpetuity for the deceased, and therefore perpetual reverence and respect, Mt. Auburn intended to benefit the living by providing them with a manicured space in which to interact with nature and engage in contemplation about their own mortality.⁸²

Participation in nature was meant to foster the contemplation of morality and the subsequent living of more morally pure, Christian lives.⁸³ In order to have nature for mourners to interact with, cemeteries needed to be concerned with the preservation of the environment they existed in, though nineteenth century notions of preservation included concepts of land management that prioritized aesthetics in a way that modern conservation ethos does not. This connection to nature and beauty is important, because as a founding tenet of the modernization of the American cemetery, it is something to be remembered and re-embraced as we move towards modes of body disposition that aim to engage with the environment in positive and sustainable ways. It can be thought of as a re-embracing of the use of death and cemeteries to connect the living to nature, as those developing green deathcare options seek to bring engagement with death and positive engagement with the environment together.

⁸⁰ French, "The Cemetery," 76.

⁸¹ French, "The Cemetery," 70.

⁸² Albert N. Hamscher, "Talking Tombstones: History in the Cemetery," *OAH Magazine of History*, 17, no. 2 (2003) 41, <http://www.jstor.org/stable/25163579>.

⁸³ Hamscher, "Talking Tombstones," 41.

In addition to the development of the manicured nature of the rural cemetery, a key turning point in the history of the American funeral industry is the acceptance and embrace of embalming as standard practice. This acceptance can be traced back to the Civil War. Prior to the 1860s, in the minds of Americans embalming was a mystical Pagan practice, which desecrated the natural form of the body, and therefore the creation of God.⁸⁴ Most deaths occurred at home, and therefore preservation for travel was unnecessary.

During the Civil War however, young men died in unprecedented numbers extremely far away from their homes and families.⁸⁵ Families back home were distressed by the thought of not being able to care for their deceased loved ones, and requested the bodies be returned to them. Embalming as a practice developed out of the need for preservation of the soldiers' bodies on the long train rides from battle locations back to their families.⁸⁶ Embalming at the time was a vague science, professionals used proprietary mixes of toxic chemicals such as arsenic and physical preservatives such as sawdust, as well as invasive surgical procedures to hollow out body cavities and remove organs to impede decay.⁸⁷

Outside of the casualties of the Civil War, embalming remained an unpopular practice until the death of President Abraham Lincoln in 1865. Lincoln's body was put on display in major city centers as it made the train journey from Washington D.C. to his

⁸⁴ *Dying Green*, 12:51.

⁸⁵ Drew Gilpin Faust, "Death and Dying," Civil War Era National Cemeteries: Honoring Those Who Served. National Park Service, https://www.nps.gov/nr/travel/national_cemeteries/death.html.; Faust, *This Republic of Suffering*, 9.

⁸⁶ Faust, *This Republic of Suffering*, 87.

⁸⁷ Meyers, Breetzke, Holt, "Arsenic and Old Graves," 2.

home of Illinois, and the success of his embalming making him appear peacefully at rest rather than gaunt and deceased thrust the practice into popularity among the public.⁸⁸

Arsenic embalming quickly became common practice, and historical cemeteries are filled with remains preserved with the toxin. It wasn't until 1910 that arsenic was banned in the practice of embalming, after several years of public health concerns and the removal of it from other consumer products such as paints, fabrics, and even candy made it clear that it was dangerous.⁸⁹ Formaldehyde embalming took the place of arsenic as the most popular practice, and despite concerns from the EPA and other public health and safety organizations, it remains the most popular method of embalming in 2023.⁹⁰

The other traditional method of body disposition common in the funeral industry is cremation. Standard industry cremation is also known as combustion cremation, as it utilizes fire to reduce the soft tissues of human remains to gasses, and leaves behind skeletal fragments which are then processed into a fine powder and returned to the family of the deceased.⁹¹ Cremation in the United States took time to catch on, as it was widely considered a desecration of the body by Christian standards. The first cremation in the United States took place in 1876 in Pennsylvania as part of a fringe religious movement

⁸⁸ Laderman, *Sacred Remains*, 158 ; 160.

⁸⁹ Meyers, Breetzke, Holt, "Arsenic and Old Graves," 3.

⁹⁰ "NFDA Making Your Voice Heard in EPA Review of Formaldehyde," NFDA News, National Funeral Directors Association, December 23, 2022, <https://nfda.org/news/in-the-news/nfda-news/id/6702/nfda-making-your-voice-heard-in-epa-review-of-formaldehyde>.; Andrew Martin, "Despite Risk, Embalmers Still Embrace Preservative," *New York Times*, July 20, 2011, <https://www.nytimes.com/2011/07/21/business/despite-cancer-risk-embalmers-stay-with-formaldehyde.html>.

⁹¹ "History of Cremation," Cremation Association of North America, <https://www.cremationassociation.org/page/HistoryOfCremation>.

funeral.⁹² It soon picked up popularity due to Protestant proponents who sought burial practice reform, concerns over public health caused by burials in cities, and the emergence of cremation societies across the country.⁹³

Through the twentieth century, the popularity of combustion cremation grew in the United States, spurred in part by consumerist critique of the burial industry published in *The American Way of Death* by Jessica Mitford who sought to lower costs for consumers. In 1963 the Vatican repealed the ban on cremation for Catholics, and the increasingly industry aware public embraced it as a burial alternative.⁹⁴ In 2007, the American cremation rate was 30% and it was expected to increase to 45% by 2025 according to the Cremation Association of North America (CANA).⁹⁵ In 2015, the nationwide cremation rate surpassed the rate of casketed burial for the first time.⁹⁶ New estimates of the cremation rate increase project that cremation rates will hit 63% by 2025.⁹⁷ Though often perceived as a more environmentally friendly disposition option, contemporary understandings of cremation include considerations of carbon emissions and energy requirements. Though cremation is no longer considered one of the most ecologically friendly disposition options in 2023, there is a growing subsector of the funeral industry with an emphasis on environmental ethics.

⁹² “Up in Smoke: Theosophy and the Revival of Cremation,” The Theosophical Society in America, <https://www.theosophical.org/publications/quest-magazine/1684-up-in-smoke-theosophy-and-the-revival-of-cremation>.

⁹³ “History of Cremation,” Cremation Association of North America, <https://www.cremationassociation.org/page/HistoryOfCremation>.

⁹⁴ “Respect for the Dead,” Catechism of the Catholic Church, http://www.vatican.va/archive/ccc_css/archive/catechism/p3s2c2a5.htm.

⁹⁵ Harris, *Grave Matters*, 63.

⁹⁶ “U.S. Cremation and Burial Trends,” *2022 NFDA Cremation & Burial Report*, July 2022, 7.

⁹⁷ NFDA, “U.S. Cremation and Burial Trends,” 7.

More environmentally conscious deathcare options in the United States have been in development for decades. Natural burial, the practice of interring human remains directly in the earth, without embalming or other preservation techniques has been possible in the United States since 1998.⁹⁸ Ramsey Creek Preserve in Westminster, South Carolina was formed in 1996, founded by local physician Dr. Billy Campbell, who was inspired to open a natural burial ground following the death of his father in 1985.⁹⁹ Ramsey Creek saw its first burial in 1998, on the original 33 acres of forest. Since then, the preserve has expanded to 78 acres, 75 of which are reserved specifically for conservation burial.¹⁰⁰ In 2006, Memorial Ecosystems, the corporation established by the Campbells to manage Ramsey Creek’s growth, partnered with Upstate Forever, a nonprofit conservation land-trust to ensure the maintenance of the conservation burial site in perpetuity.¹⁰¹

In 2005, Joe Sehee and his wife Juliette founded the Green Burial Council, an educational and certificatory body which established standards for natural burial sites in conjunction with Dr. Campbell and Ramsey Creek.¹⁰² The GBC oversees the development of new green burial sites across the country as an independent third party, and certifies service providers and products for use in natural burials.¹⁰³ The GBC has

⁹⁸ “Ramsey Creek Preserve History,” Memorial Ecosystems, https://www.memorialecosystems.com/ramsey_creek_preserve_history.html.

⁹⁹ Harris, *Grave Matters*, 166.

¹⁰⁰ Memorial Ecosystems, “Ramsey Creek Preserve History.”

¹⁰¹ Memorial Ecosystems, “Ramsey Creek Preserve History.” ; “Businesses Thriving on Conservation Properties,” *Upstate Advocate*, Upstate Forever, (Fall/Winter 2022-2023): 19.

¹⁰² “History of the GBC,” Green Burial Council, <https://www.greenburialcouncil.org/history.html>.

¹⁰³ Green Burial Council, “History of the GBC.”

certified cemeteries in 33 states across the country, as well as several in Canada.¹⁰⁴ Non-GBC backed green burial sites also exist across the United States as well, providing further options for those interested in natural burial. Natural burial faces some challenges due to public perception, and legislation such as a recent moratorium in Minnesota—which ultimately ran afoul of religious freedom laws as Jewish and Muslim funerary practices have adhered to natural burial definitions for centuries—but there is a growing amount of support for it across the country.¹⁰⁵

Natural burial is not the only option for more environmentally friendly body disposition. There are alternatives to cremation as well. Alkaline Hydrolysis, also known as aquamation, water cremation, and bio cremation, is a practice in which the human remains are submerged in a heated alkaline solution, which dissolves the soft tissues of the body into a sterile effluent and leaves behind skeletal remains which are processed in the same way as combustion cremation.¹⁰⁶ Alkaline Hydrolysis has been available technology for decades, as a method of disposition for animal remains beginning at the Albany Medical Center in the early 1990s.¹⁰⁷ This translated to use in veterinary settings

¹⁰⁴ “United States,” Cemeteries, Green Burial Council, <https://www.greenburialcouncil.org/cemeteries.html>.

¹⁰⁵ Walker Orenstein, “Minnesota paused ‘green burials’ because of a bitter fight over a cemetery in Carlton County. It has led to questions of religious freedom,” *MinnPost*, July 5, 2023, <https://www.minnpost.com/greater-minnesota/2023/07/minnesota-paused-green-burials-because-of-a-bitter-fight-over-a-cemetery-in-carlton-county-it-has-led-to-questions-of-religious-freedom/>.

¹⁰⁶ “Alkaline Hydrolysis,” Cremation Association of North America, <https://www.cremationassociation.org/page/alkalinehydrolysis#:~:text=An%20Overview,a%20neutral%20liquid%20called%20effluent.>

¹⁰⁷ Olson, “Flush and Bone,” 672

to dispose of remains as an alternative to cremation, and eventually to the funeralization of the process for use on human remains beginning in the mid-2000s.¹⁰⁸

The process of Alkaline Hydrolysis was first used in a funeral capacity in 2011 in Ohio and Florida, and has expanded across the United States in the decade since.¹⁰⁹ The push for Alkaline Hydrolysis as a funeral practice has come from the industry which creates the mechanics that make the process possible, rather than from grassroots ecological organization, though environmental consideration has always been a part of the process of educating the public and encouraging them to embrace the practice.¹¹⁰ The current state of Alkaline Hydrolysis in the United States as a funeral practice is slightly complicated, as many more states have active facilities that can perform the service than have necessarily legalized the process formally.¹¹¹ Legislation and further regulation of the practice as a funerary method of body disposition remain on the table across the United States, and Alkaline Hydrolysis remains a more sustainable alternative to traditional combustion cremation.

The most recently developed, and most recently contentious alternative to traditional burial or cremation is Natural Organic Reduction (NOR), or human composting. NOR was originally conceived of and developed by architect and environmental activist Katrina Spade in 2011.¹¹² Spade was inspired by the practice of

¹⁰⁸ “How Does Alkaline Hydrolysis Work?” Heavenly Paws Aquamation, <https://www.heavenlypawsatlanta.com/news/aquamation-atlanta/how-does-alkaline-hydrolysis-work/>; Olson, “Flush and Bone,” 672.

¹⁰⁹ CANA, “Alkaline Hydrolysis.”

¹¹⁰ Olson, “Flush and Bone,” 672

¹¹¹ CANA, “Alkaline Hydrolysis.”

¹¹² “Katrina Spade,” Team, Recompose, <https://recompose.life/team/katrina-spade/>; “HB 2574 – Natural Organic Reduction – Q&A,” Oregon Legislature: 1.

livestock composting in farm settings and sought to replicate the process at scale for use in the funeral industry.¹¹³ Her facility, Recompose, was founded in 2017 after six years of research, development and fundraising, including 2015 process testing at Western Carolina University.¹¹⁴ In 2019, the process of NOR was officially legalized in Washington state, the first state in the United States to do so.¹¹⁵ Since then, Oregon, Colorado, Vermont, California, New York and Nevada have legalized the practice of NOR, and seven other states have introduced legislation as of July 2023.¹¹⁶ NOR faces legislative challenges in several states, and issues with public perception of it as weird or disrespectful, which are standard responses to emergent deathcare technologies that break away from the norms of the industry. Despite these challenges, the practice continues to grow across the country, and new conversations surrounding legislation in other states are forthcoming.

The current state of the funeral industry is the result of a centuries old shift within deathcare towards professionalization and away from community activity. Across the country, thousands of people are buried each year in modern burials, using “protective” caskets after being embalmed, because of the impacts of the Civil War, and the ways industrial profit-seeking has pushed progress forward. Thousands more are cremated in standard combustion cremations, in a continuously growing popular choice to avoid the

¹¹³ “The Power of Microbes,” History, Recompose, <https://recompose.life/who-we-are/#history>.

¹¹⁴ Recompose, “Recompose Founded.” ; Einhorn, “A Project to Turn Corpses Into Compost.”

¹¹⁵ “Signed Into Law,” History, Recompose, <https://recompose.life/who-we-are/#history>. ; “Becoming Human compost: The Process of Natural Organic Reduction,” *Talkdeath*, June 21, 2022, <https://www.talkdeath.com/becoming-human-compost-the-process-of-natural-organic-reduction/>

¹¹⁶ “Legislation,” Return Home, <https://returnhome.com/idratherbecompost/>.

complexities and expense of burial. The country is in the midst of a change, however, as new technologies are developed which seek to prioritize care and concern for the environment and commit to more ecologically sustainable and environmentally friendly practices.

Americans are growing more and more interested in alternative or greener deathcare options, with 60% of Americans expressing interest in green practices when surveyed by the National Funeral Directors Association.¹¹⁷ The history of deathcare in the United States has always been linked to changing social attitudes and technological development, and the next several years are likely going to be a turning point in the ways in which the funeral industry interacts with both the public and the environment as it must change and grow to stay relevant as environmental consciousness in deathcare becomes increasingly popular.

¹¹⁷ “Trends in Deathcare Preferences Among U.S. Consumers,” *2021 NFDA Cremation & Burial Report*, July 2021: 11.

Chapter 4

Environmental Concerns Within the United States Funeral Industry

The United States funeral industry is intrinsically tied to the environment. All of human existence is sustained through interaction with the natural world around us, and our deaths are no different. Regardless of the choice of disposition technology the deceased or their family makes, the environment pays some of the costs, through resources used, through energy and carbon production, or through the introduction of pollutants into ecosystems. This chapter examines the ways in which the current most popular disposition methods impact the environment in negative ways, and how greener options being introduced across the country can improve those impacts. It identifies contemporary problems within the industry that contribute to environmental degradation and make it clear that the issues examined in the historical survey remain pertinent in the twenty-first century.

Problems are identified and supported through the use of empirical environmental science and raised from a particular material culture lens. Cemeteries and funerals are inherently a source of material culture, as memorialization objects and burial or funereal artifacts are a primary source of material culture throughout history. Environmental research on cemeteries remains relatively lacking, due to the consideration of the spaces as sacred. However, as they remain primary sources of material culture and attendant

human intervention related to the production of material culture, their environmental impacts must be considered.¹¹⁸

Ultimately, the critiques made of current practices in this chapter are done in support of the creation of a more environmentally friendly and sustainable industry, one that is less resource intensive, aims to reduce or offset its carbon footprint, and commits to reduction of damage through contaminants and pollutants being directly introduced to the environment surrounding cemeteries, crematories, and other locations of deathcare. These critiques, when considered from a material culture lens, are made in service of the preservation of the industry as a source of cultural practice and are not meant to engender the complete destruction or dissolution of cemeteries and deathcare in the United States.

This chapter relies heavily on environmental research and the empirical data that shows the impacts of the current industry. Examinations include the introduction of contaminants and harmful chemicals to groundwater in and surrounding cemeteries, the carbon cost of combustion cremation on an industrial scale, and the questions surrounding human intervention into the environment for aesthetic purposes—such as the use of grave liners and extensive lawn care and environmental management in cemeteries.

In order to effectively discuss the specific issues within the funeral industry, it is important to establish a baseline of knowledge surrounding environmental science. According to the United Nations, sustainability is defined as “meeting the needs of the present without compromising the ability of future generations to meet their own

¹¹⁸ Brennan et al., “Groundwater Quality,” 1.

needs.”¹¹⁹ This definition raises several questions that are particularly poignant when applied to the funeral industry. The first of these questions is *what is need?* How can the required resources for funerary practices in the United States be defined? Is a casket necessary for a burial? What about a cement grave liner? Is it necessary to embalm a body that is going to be cremated? Additionally, how can the funeral industry be certain that the resources it uses today will not have harmful impacts on the environment in the long term that will damage future generations’ ability to provide for themselves?

With these questions in mind, one viewpoint is that the most sustainable course now is to reduce the amount of impact made today with the intention of preserving both the environment and the practices utilized currently so they may be available in the future. If reduction of resource use and negative impact on the environment are priorities, then the behavior of the contemporary funeral industry must be examined, as well as the historical precedent for these behaviors. To do so, this chapter begins with an examination of groundwater contamination surrounding both historical and modern cemeteries, and the environmental impacts of embalming practices.

It is first important to establish that environmental research surrounding cemeteries is limited. The consideration of cemeteries as sacred spaces results in a lack of access for environmental testing.¹²⁰ Emotional reactions to the concept of perceived “invasive investigation” such as disinterment, disturbance of graves due to digging, or other testing methods tend to create disconnects between researchers and the public, whose primary concern is the maintenance of loved ones’ resting places. Where

¹¹⁹ “Sustainability,” Academic Impact, the United Nations, <https://www.un.org/en/academic-impact/sustainability>.

¹²⁰ Brennan et al., “Groundwater Quality,” 1.

environmental research into cemeteries does occur, researchers must be aware and conscientious of the emotional resonance of the sites they are working on, in an effort to maintain an understanding with a public who may not see the value of the research or agree it should be done at all. Due to this, studies within the United States on the environmental impacts of cemeteries are done irregularly and are often region specific.

However, in 2016, the United States Geological Survey (USGS) conducted a yearlong study on groundwater quality seeking to determine the level of threat from cemetery leachate near Mt. Hope Cemetery in Lansing Michigan.¹²¹ Published in 2018, the survey compared leachate concentrations against Environmental Protection Agency safe water drinking standards—which set legal limits on more than ninety chemical and microbial water contaminants that can be present in drinking water supplies.¹²² The survey utilized four wells located around the bounds of the cemetery, within its watershed area, to test for the presence of organic contaminants, manmade contaminants, and “contaminants of emerging concern” (CECs) within the groundwater surrounding Mt. Hope, which provides drinkable water through a well system in Lansing.¹²³

From December 2016 to July 2017 the wells were sampled quarterly in order to test for various contaminants.¹²⁴ Concerning results from the testing done by USGS indicated higher-than-acceptable levels of CECs in the wells surrounding Mt. Hope, as well as elevated amounts of metals and residue from casket manufacturing and breakdown.¹²⁵

¹²¹ Brennan et al., “Groundwater Quality,” 1.

¹²² Brennan et al., “Groundwater Quality,” 1. ; EPA, “Drinking Water Regulations.”

¹²³ Brennan et al., “Groundwater Quality,” 1.

¹²⁴ Brennan et al., “Groundwater Quality,” 1.

¹²⁵ Brennan et al., “Groundwater Quality,” 15.

CECs are of particular interest when it comes to the environmental impacts of burial, as they are man-made compounds which scientists are growing increasingly aware of the impacts of, as they are exposed to decay and incorporated into groundwater following burial. CECs include personal care products such as makeups and hair treatments, as well as pharmaceuticals like medications, and other synthetic or naturally occurring chemicals that have no natural reason to be in a particular environment, and therefore may have adverse impacts on said environment.¹²⁶ CECs are categorized when they are established to “cause known or suspected adverse ecological and (or) human-health effects” the limitations of which are unknown.¹²⁷

Potential threats include persistence or bioaccumulation, that would make continued introduction of such substances into groundwater that provides drinking water to communities particularly harmful—this data is still extremely limited, as research surrounding the presence of CECs in cemeteries was “nonexistent” or “extremely limited” in 2016, and has not seen particularly concentrated study since.¹²⁸ The USGS links the presence of CECs with potential endocrine disruption in both humans and wildlife, which is a potential threat to communities located around cemeteries, and it is currently still unknown the ultimate fate of CECs found in groundwater due to the limitations of the USGS study.¹²⁹ Further research on CECs in cemetery groundwater and the surrounding areas is needed in order to determine their potential full impacts on the environment, and what sustainable choices must be made to manage them.

¹²⁶ Brennan et al., “Groundwater Quality,” 15.

¹²⁷ Brennan et al., “Groundwater Quality,” 15.

¹²⁸ Brennan et al., “Groundwater Quality,” 15.

¹²⁹ Brennan et al., “Groundwater Quality,” 15.

Concerns regarding contamination of the environment surrounding cemeteries presented in the USGS study are corroborated by research performed on cemetery pollution globally, both in the years prior to the USGS study, and in the more recent past.¹³⁰ Though the scientific results of these studies have limited relevance to the practices utilized in the United States due to differing regulations surrounding environmental conditions, the presence of the research indicates that globally common practices consistently produce negative environmental impacts. Further research into United States cemeteries is necessary to determine specific pollution issues within the country. At this time, the USGS study of Mt. Hope Cemetery remains the most detailed federally backed examination of environmental contamination from a United States cemetery, and the strongest case for concern surrounding pollution from standard burials.

Perhaps the most concerning findings regarding groundwater contamination in the wells around Mt. Hope Cemetery were the elevated levels of arsenic, which exceeded EPA drinking water standards.¹³¹ This is of particular importance, as arsenic was once a common constituent of embalming fluid in the late nineteenth and early twentieth centuries, though it fell out of favor due to public health concerns in 1910.¹³² Mt. Hope Cemetery dates back to 1874, approximately ten years after the end of the Civil War and the advent of popular embalming, and decades before the abandonment of arsenic as a common embalming chemical.¹³³ There are, however, graves that date back even older in

¹³⁰ Franco, et al., “Environmental Pollution Caused by Cemeteries.” ; Neckel, et al., “Environmental Damage and Public Health Threat.”

¹³¹ Brennan et al., “Groundwater Quality,” 11.

¹³² Meyers, Breetzke, Holt, “Arsenic and Old Graves,” 3.

¹³³ Brennan et al., “Groundwater Quality,” 11.

the cemetery, prior to its incorporation by the town.¹³⁴ These older graves, as well as those burials which occurred between 1874 and 1910 are quite likely to contain remains treated with arsenic embalming fluid, and it is concerning to see such elevated contamination levels so as to exceed EPA drinking water standards over a century later.

The presence of such significantly high amounts of arsenic in the drinking water surrounding Mt. Hope raises potential concerns regarding groundwater contamination near other historic cemeteries across the country. Removal of arsenic from the funeral industry as well as in the production of consumer goods—green dyes for fabric and paints, pesticides, postage stamps, cosmetics, and even candy—occurred starting in the mid nineteenth century due to public health concerns, though the long-term environmental impacts of its use would remain unknown for decades to come.¹³⁵ By 1851 there were legal restrictions on the sale of arsenic as its use in consumer goods was linked to several deaths, especially those of children.¹³⁶ By 1920 the use of arsenic in embalming fluid was illegal across the country.¹³⁷ The presence of historic arsenic in groundwater surrounding cemeteries a century after its discontinuation as an embalming agent sets a precedent for the potential that current embalming fluids and chemicals may one day pose problems for future generations. Potentially the most concerning of these currently used chemicals is formaldehyde.

USGS' testing of the watershed wells surrounding Mt. Hope Cemetery did not reveal a particular concern of formaldehyde contamination of the local drinking water, as

¹³⁴ Brennan et al., "Groundwater Quality," 11.

¹³⁵ Meyers, Breetzke, Holt, "Arsenic and Old Graves," 3.

¹³⁶ Meyers, Breetzke, Holt, "Arsenic and Old Graves," 3.

¹³⁷ Meyers, Breetzke, Holt, "Arsenic and Old Graves," 3.

the researchers had originally suspected it might. However, in published results, researchers expressed concerns that the single Mt. Hope study was insufficient evidence to rule out concerns over formaldehyde contamination, as it is unclear if the lack of information surrounding formaldehyde concentration in one cemetery can be attributed to a lack of risk associated with formaldehyde use, or merely a lack of context.¹³⁸ It can however, be noted that concerns over formaldehyde-based embalming remain present at the federal level, as the EPA continues research into its impacts on funerary workers, as well as the environment.¹³⁹

The research into the harmful effects of formaldehyde is being actively fought by the National Funeral Directors Association, whose claims are that working with formaldehyde presents no health risks—in direct opposition to already available science from the EPA regarding its status as a toxin and known human carcinogen.¹⁴⁰ Despite its categorization within the top 10% of chemicals hazardous to the environment the EPA already makes concessions surrounding the use of formaldehyde in embalming practices, through a modification of their standards for testing of toxicity when applied to the embalming process.¹⁴¹ According to the EPA’s standards for measurement of toxicity, when a toxic substance is mixed with a nontoxic substance the whole substance must then be considered toxic.¹⁴² This applies to the use of formaldehyde in embalming practices, as exposure of a toxin to nontoxic human remains renders the remains toxic by EPA

¹³⁸ Brennan et al., “Groundwater Quality,” 11.

¹³⁹ NFDA News, “NFDA Making Your Voice Heard.”

¹⁴⁰ NFDA News, “NFDA Making Your Voice Heard.”

¹⁴¹ Chiappelli and Chiappelli, “Drinking Grandma,” 25.

¹⁴² Chiappelli and Chiappelli, “Drinking Grandma,” 26.

standards.¹⁴³ However, terms like “toxic” and “solid waste” being applied to human remains is distressing for grieving families, and the terms have been kept out of the vernacular surrounding the disposal of human remains.¹⁴⁴ While from a sympathetic and emotional perspective the modification of language so as not to distress families further during a difficult time is a noble and commendable goal, it raises questions surrounding sustainability and necessity of practice from a scientific standpoint.

The main question arising from the practice of modifying language surrounding scientific reality in the interest of assuaging distress or providing comfort to the living is whether or not it allows environmentally unfriendly or unsustainable practices to continue. This question is applicable to formaldehyde-based embalming, but also to the continued use of cement grave liners and caskets manufactured from chemically treated lumber, metal and rubber which provide no preservative benefit to the remains and are rather intended only for aesthetic purposes both at the burial and during maintenance of the cemetery.

In fact, these “protective” caskets can be detrimental to the remains they contain—the sealed casket creates an anaerobic environment that locks in moisture and is primarily hospitable to bacteria that cause very wet forms of decay.¹⁴⁵ When this occurs in cases where the remains have been embalmed the combination of bodily and embalming fluids easily breaks down wooden caskets, and will eventually eat through even metal caskets, releasing a slurry of potentially toxic, unbroken down embalming

¹⁴³ Chiappelli and Chiappelli, “Drinking Grandma,” 26.

¹⁴⁴ Chiappelli and Chiappelli, “Drinking Grandma,” 26.

¹⁴⁵ Harris, *Grave Matters*, 44.

chemicals and remains into the environment.¹⁴⁶ Cement vaults and grave liners may not prevent these liquified remains from seeping into the soil and groundwater either, as the sheer weight of the soil returned to a grave when it is closed can damage a vault and negate its waterproof aspects.¹⁴⁷

In the 2011 documentary *Dying Green: Natural Burial and Land Conservation* about the establishment of the Ramsey Creek Preserve conservation burial ground in Westminster, South Carolina, cemetery founder Dr. Billy Campbell is explicit about the fact that the practice of protective caskets continues in part because funeral industry workers know the fate of remains buried in that fashion, but continue to provide the service to the public as it drives profit.¹⁴⁸ This alone raises questions in terms of the ethical treatment of the environment in the funeral industry. In terms of sustainability, we must ask if these practices are necessary, or if they are extraneous to the basic tasks of burial and body disposition. The use of these practices and materials both require energy and resources to create, and actively introduce known harmful chemicals and extraneous material trash into environments; is modification of language, or active avoidance of telling the public the truth, and placing primacy on the aesthetics of funerary services contributing to their continuation? Can the industry know if the utilization of these resources now will have harmful effects on future generations? Is it worth the risk, or is it better that society attempt to reduce or eliminate these practices now? Another important dimension to these questions is whether or not consumers and the industry can trust that current practices will not turn out to be harmful in the future, as the use of arsenic in

¹⁴⁶ Harris, *Grave Matters*, 46.

¹⁴⁷ Harris, *Grave Matters*, 46.

¹⁴⁸ *Dying Green*, 15:16.

embalming fluid in the nineteenth century has turned out to have negative impacts on the environment today.

When discussing the environmental impact of burial practices on an industry scale, it must be acknowledged that more and more Americans are choosing to be cremated.¹⁴⁹ While cremation does not preclude the inclusion of embalming, it does negate the need for a casket and grave liner used for burial, and even in scenarios where families want to hold viewings of their loved ones for memorial services prior to cremation, casket rental is an option.¹⁵⁰ In these ways, cremation could be perceived as a more environmentally friendly disposition option for those who are looking to avoid the resource and energy costs associated with a modern burial and the trappings that go along with it.

However, the costs of industrial combustion cremation are applied to the environment in different ways—contaminants are still introduced to the environment through the process, and additionally, the carbon footprint of the act of combustion itself must be considered. In 2021, approximately 60% of United States Americans chose cremation as their body disposition method.¹⁵¹ The CDC reports that there were 3,464,231 registered deaths in the United States in 2021, which, based on the NFDA statistics, resulted in 2,078,539 cremations across the country.¹⁵² According to the Cremation Association of North America, a standard industry combustion cremation

¹⁴⁹ NFDA, “2021 Cremation & Burial Report Highlights,” 2.

¹⁵⁰ “Funeral Costs and Pricing Checklist,” Federal Trade Commission, published July 2012, <https://consumer.ftc.gov/articles/funeral-costs-pricing-checklist>.

¹⁵¹ NFDA, “Statistics.”

¹⁵² “Deaths and Mortality,” National Center for Health Statistics, Centers for Disease Control and Prevention, <https://www.cdc.gov/nchs/fastats/deaths.htm>.

occurs over the course of approximately two hours, at a temperature between 1400- and 1600-degrees Fahrenheit.¹⁵³ This process reduces the soft tissue to gasses, which are then filtered to meet EPA standards regarding heavy metals and contaminants and are released into the atmosphere. Bone fragments left behind by the process of combustion are then removed from the cremation chamber, and are processed in a cremulator, which grinds the larger fragments to a fine powder which is then returned to loved ones.¹⁵⁴

Even with regulations in place surrounding the emissions released from cremations, a standard cremation results in the production of carbon. In a 2019 interview with National Geographic, former Executive Director of the People’s Memorial Association—a Washington state specific funeral advocacy group whose work is in line with organizations such as the National Home Funeral Alliance, and the Funeral Consumers Alliance—Nora Menkin stated that a single cremation can be equated to the use of approximately two tanks of gas in an “average” car.¹⁵⁵ Multiply the amount of carbon released in a single cremation by the 60% of Americans being cremated each year, and concern over cremation carbon emissions becomes clear. Carbon emissions are not the only cause for concern surrounding the environmental impacts of cremation. According to a 2019 dissertation on the environmental impacts of crematoria through toxic emissions, though the EPA categorized crematoria in the United States as a “very low priority” source of pollution in 2005, reexamination of these standards has not

¹⁵³ “Cremation Process,” Cremation Association of North America, <https://www.cremationassociation.org/page/CremationProcess>.”

¹⁵⁴ CANA, “Cremation Process.”

¹⁵⁵ Becky Little, “The Environmental Toll of Cremating the Dead,” *National Geographic*, December 5, 2019, <https://www.nationalgeographic.com/science/article/is-cremation-environmentally-friendly-heres-the-science>.

occurred, and initial testing failed to take into account to variability of crematory filtering processes throughout the country.¹⁵⁶

Further regulations on crematory emissions have been left to the state level, though even there, they receive less attention than other sources of pollution. California has historically had stronger regulations on air quality management in comparison to other states—in efforts to reduce the amount of air pollution present in its car-dependent city centers—which also apply to crematoria within the state. Specific regulations surrounding the number of monthly cremations allowed in Los Angeles County were in place up until January 2021 in order to mitigate potential air quality impacts. During the height of the Covid-19 pandemic, the South Coast Air Quality Management District lifted these regulations in order to keep up with the death rate due to the coronavirus.¹⁵⁷ The original January order was slated to last ten days and be extended if necessary—the order was regularly revisited and continued to be extended through May 3, 2021, as the high death rate continued to create a backlog of cremation cases facilities could not handle without increased capacity.¹⁵⁸

The California regulatory changes were necessary, at a time when unprecedented death rates across the country stretched the capacity of the funeral industry nationwide. The need for refrigeration trucks surrounding New York City hospitals, and temporary interment of the deceased on Hart Island highlight the fact that Los Angeles County was not unique in its plight regarding over extended deathcare professionals throughout the

¹⁵⁶ Kuchnicki, “Environmental Issues,” 64.

¹⁵⁷ “South Coast AQMD Issues Emergency Order for Crematoriums due to COVID-19,” South Coast AQMD Press Release, January 17, 2021.

¹⁵⁸ “Executive Order 21-01x10,” South Coast Air Quality Management District, April 23, 2021.

pandemic.¹⁵⁹ It is notable, however, that crematoria regulations in other parts of the country were less impacted by the pandemic than those in California, indicating that less regulation over air pollution from cremation takes place around the rest of the country. Similar to global research regarding cemetery pollution, studies concerning atmospheric pollutants from crematoria in other nations—such as one performed in 2017 on three crematories in Mexico City—provide evidence that further research needs to be performed on crematories in the United States. The consistency of studies returning results indicating negative environmental impacts from standard funerary practices in other nations lends credence to the notion that American facilities need to be monitored more regularly to ensure the mitigation of environmental consequences.¹⁶⁰

Additionally, though EPA standards are in place, continued meeting of these standards requires proper training of crematory workers, and maintenance of systems that by the EPA's own admission are considered low priority for monitoring.¹⁶¹ These concerns raise the question of whether or not adhering to the legal limits in place regarding contamination and pollution of the environment is an effective method of reducing environmental damage. Can the government be considered an effective arbiter of sustainable practices in an industry that sees very little research and regulation? Should the goals of those seeking to improve the environmental conditions surrounding the

¹⁵⁹ Noah Higgins-Dunn, Berkeley Lovelace Jr. and Will Feuer, “FEMA Sends Refrigerator Trucks to NYC to Serve as Temporary Mortuaries for Coronavirus Victims,” *CNBC*, March 30, 2020, <https://www.cnbc.com/2020/03/30/fema-sends-refrigerator-trucks-to-nyc-to-serve-as-temporary-mortuaries-for-deceased-coronavirus-patients.html>. ; W.J. Hennigan, “Lost in the Pandemic: Inside New York City’s Mass Graveyard on Hart Island,” *Time*, November 18, 2020, <https://time.com/5913151/hart-island-covid/>.

¹⁶⁰ González-Cardoso et al., “Toxic atmospheric pollutants,” 43801.

¹⁶¹ Kuchnicki, “Environmental Issues,” 64.

funeral industry seek to merely meet the guidelines laid out by governing bodies, or to continue to improve, regardless of whether or not they are already meeting legal requirements?

While combustion cremation may not be the solution to concerns over sustainable disposition technologies, emerging methods hold some promise to improve the environmental impacts of the industry. One example is Alkaline Hydrolysis. Alkaline Hydrolysis, sometimes referred to as “water cremation” or “aquamation” is a process by which human remains are slowly dissolved in a vat of alkaline solution, leaving behind sterile effluent, which is returned to the water system, and skeletal remains that are pulverized and returned to the family in the same way traditionally cremated remains are.¹⁶²

Alkaline Hydrolysis is already used in veterinary care across the country and is legalized in twenty-eight states for use on human remains, though not every state actually has funeral providers performing the service.¹⁶³ The process uses less energy than a standard combustion cremation, and less time. The alkaline solution circulated around the remains becomes a sterile mixture of water, salts and sugars, amino acids, and peptides, which can then be drained as wastewater and treated by public water management

¹⁶² CANA, “Alkaline Hydrolysis.”

¹⁶³ CANA, “Alkaline Hydrolysis.”; “Fact Check-Alkaline Hydrolysis, or Liquid Cremation, Does Not Mean Human Remains are ‘Fed to the Living,’” Reuters Fact Check, *Reuters* March 30, 2023, <https://www.reuters.com/article/factcheck-dead-fed-living/fact-check-alkaline-hydrolysis-or-liquid-cremation-does-not-mean-human-remains-are-fed-to-the-living-idUSL1N3621X5>. ; Heavenly Paws, “How Does Alkaline Hydrolysis Work?” ; Andrew McGee, “Where is Aquamation Legal? Which States Have Legalized Aquamation or Bio Cremation?” Green Funerals or Natural Burial, US Funerals Online, July 8, 2023, <https://www.us-funerals.com/where-is-aquamation-legal-which-states-have-legalized-aquamation-or-bio-cremation/#.ZBy8cHbMKUk>.

systems.¹⁶⁴ The use of public water management systems to handle funerary waste is common in traditional industry practices as well, as embalming waste is flushed down drains into the water system to be treated at later points—however, embalming waste is considered non-sanitary by the EPA and often contains regulated contaminants such as formaldehyde.¹⁶⁵

Alkaline Hydrolysis has been an option for funerals since 2011, though it has been slow to catch on in part due to a lack of understanding of the process, and in part due to online fearmongering about the practice—such as a viral TikTok video from early 2023 in which an anonymous narrator states that the products of the process are being “fed to the living.”¹⁶⁶ Visibility for the practice, and encouragement for its environmental benefits were brought into the public eye in January 2022, when the late archbishop Desmond Tutu requested Alkaline Hydrolysis for disposition of his remains, in the interest of his last act on earth being one of benefit to the earth, rather than pollution.¹⁶⁷

The marketing of Alkaline Hydrolysis as environmentally friendly has lacked some of the ability to catch the public’s attention the way natural burial and Natural Organic Reduction have, but it remains an ecologically friendly option that the alternative industry is interested in expanding. It remains to be seen how common Alkaline Hydrolysis will become as a practice in the future.

¹⁶⁴ CANA, “Alkaline Hydrolysis.”

¹⁶⁵ Harris, *Grave Matters*, 42.

¹⁶⁶ CANA, “Alkaline Hydrolysis.”

.” ; Reuters, “Fact Check-Alkaline Hydrolysis.”

¹⁶⁷ Lauren Oster, “Could Water Cremation Become the New American Way of Death?” *Smithsonian Magazine*, July 27, 2022, <https://www.smithsonianmag.com/innovation/could-water-cremation-become-the-new-american-way-of-death-180980479/>.

The practices of Natural Burial and Natural Organic Reduction both place an emphasis on caring for the environment as a primary motivating factor. Natural Burial is the burial of human remains in an unaltered, and unpreserved state. In order to qualify as a green burial, according to Green Burial Council Standards, a natural burial forgoes embalming, grave liners, and vaults, and uses biodegradable containers for remains—including caskets, or shrouds.¹⁶⁸ Natural burials can take place in specific areas of participating conventional cemeteries, or in purposefully dedicated natural and conservation burial grounds or preserves. Natural burial cemeteries are established in support of a philosophy that seeks to use the funeral industry to protect and preserve ecosystems around the United States, and to restore land that has been impacted in other ways.¹⁶⁹ Proponents of natural burial emphasize their desire that their last act on earth is one of reciprocity, that benefits the environment rather than polluting it.¹⁷⁰

Dr. Clark Wang was one individual particularly emphatic in this sentiment, and spent the last years of his life working towards the establishment of a natural burial section of the Pine Forest Memorial Gardens in Wake Forest, North Carolina, where he was eventually buried after his death on March 29, 2011.¹⁷¹ Preservation of the environment, reduction of negative human intervention, and conservation of natural resources are core components the development and embracing of natural burial, and continue to be central to drawing individuals to the practice. Similarly, Natural Organic

¹⁶⁸ “Criteria and Characteristics of Green Burial,” Green Burial Defined, Green Burial Council, https://www.greenburialcouncil.org/green_burial_defined-299610.html.

¹⁶⁹ Memorial Ecosystems, “Ramsey Creek Preserve History.”

¹⁷⁰ *A Will for the Woods*, 11:22.

¹⁷¹ *A Will for the Woods*, 22:54.

Reduction (NOR), colloquially referred to as Human Composting offers an environmentally centered alternative to standard combustion cremation.

NOR is informed by the practice of livestock composting, a practice popular in University agricultural programs as an alternative to abandonment of carcasses and other disposition methods.¹⁷² Natural Organic Reduction is a process by which human remains are turned into soil over the course of four to six weeks.¹⁷³ Remains are held in individual chambers with straw, woodchips, and other organic material at a temperature just above 131F, while oxygen is continuously pumped into the space, to encourage decomposition.¹⁷⁴ The combination of temperature and oxygenation neutralizes results of decay such as bacteria and viruses, and any heavy metals that may be present in the body are stabilized within the soil.¹⁷⁵ At the end of the decomposition process, the resulting soil is examined by hand, and medical devices such as pacemakers and joint replacements, as well as large bone fragments are removed and processed in the same manner as a standard cremation.¹⁷⁶ The soil then cures for three to four weeks before the

¹⁷² “Livestock Mortality Composting Protocol,” Composting Livestock 2017, United States Department of Agriculture, August 15, 2017. ; “On-Farm Composting of Livestock Mortalities,” Publication Summary Description, Ecology Publications & Forms, State of Washington Department of Ecology, July 2005,

<https://apps.ecology.wa.gov/publications/SummaryPages/0507034.html>.

¹⁷³ “HB 2574 Enrolled,” 2021 Regular Session, Oregon Legislative Information,

<https://olis.oregonlegislature.gov/liz/2021R1/Measures/Overview/HB2574>.

¹⁷⁴ Oregon Legislature, “HB 2574 Q&A,” 1.

¹⁷⁵ Oregon Legislature, “HB 2574 Q&A,” 1.

¹⁷⁶ “The Process,” Our Model, Recompose, <https://recompose.life/our-model/#environmental-impact>.

family of the deceased may come and claim any amount of it they wish, or donate it to ecological restoration projects which partner with NOR facilities.¹⁷⁷

Both natural burial and Natural Organic Reduction encourage the reduction of extraneous material resources associated with burial or cremation and forbid the use of chemical preservation of remains.¹⁷⁸ Additionally, both practices provide carbon sequestration, rather than emissions when they are utilized. According to the Green Burial Council, a natural burial sequesters twenty-five pounds worth of carbon, in comparison to the 250 pounds produced by a traditional burial.¹⁷⁹ NOR also sequesters carbon, through the process of transforming the corpse into soil. Soil produced by Natural Organic Reduction may have the added environmental benefit of being used in ecosystem restoration projects such as the one occurring on Bells Mountain in Washington State.¹⁸⁰

Partnered with Seattle WA, NOR facility Recompose, the Bells Mountain Restoration Project receives donations of soil, which are then used to promote the growth of local flora, which competes with invasive blackberry plants along streambeds that have grown in following logging practices in decades past.¹⁸¹ In an interview with mortician Caitlin Doughty, founder of the Bells Mountain Restoration Elliot Rasenick speaks about the donations of NOR as occurring in batches, which would reduce the environmental impacts of transporting the approximately 1000 pounds of soil each body

¹⁷⁷ Will Campbell, “From dust to dust – to compost in Clark County,” *The Columbian*, December 5, 2021, <https://www.columbian.com/news/2021/dec/05/from-dust-to-dust-to-compost-in-clark-county/>.

¹⁷⁸ GBC, “Criteria and Characteristics of Green Burial.”

¹⁷⁹ “Disposition Statistics,” Green Burial Council, https://www.greenburialcouncil.org/media_packet.html.

¹⁸⁰ Campbell, “Dust to dust.”

¹⁸¹ Campbell, “Dust to dust.”

produces.¹⁸² The reintroduction of and care for native species of trees in the area helps to provide shade and stop erosion surrounding these streams, which are important to salmon spawning.¹⁸³

Another Natural Organic Reduction facility is Return Home, based in Auburn, WA.¹⁸⁴ Return Home refers to their process as “Terramation” and maintains their own local 8-acre restoration property that families can donate any amount of soil to, to foster conservation of the land.¹⁸⁵ Through this environmental work, choosing NOR is doing more than simply sequestering carbon that would have otherwise been released into the atmosphere, it is also actively engaging in the restoration of ecosystems that have been previously damaged.

Carbon sequestration, and the reduction of energy and materials costs associated with funeral practices are a fantastic goal, but for them to have meaning in terms of sustainability, they have to be choices that are made at scale, rather than solely on an individual level. This leads to the question, are Americans interested in choosing greener death options? According to the NFDA, yes. In the NFDA’s 2022 Consumer Awareness and Preferences Report, 60.5% of respondents, without specifying for age, race, or gender, expressed interest in greener deathcare options, primarily for the purpose of their

¹⁸² “About the Soil,” How to Consider Your Soil Options, Recompose, <https://recompose.life/education/soil-options/>. ; *Let’s Go to the Human Composting Facility!*, Caitlin Doughty (2021, YouTube) 25:35, https://youtu.be/LJSEZ_pl3Y. ; As of September 8, 2023, the Bells Mountain Projects has not responded to an informational request to more fully confirm this practice.

¹⁸³ Campbell, “Dust to dust.”

¹⁸⁴ “Experience Return Home,” The Terramation Center, Return Home, <https://returnhome.com/the-terramation-center/>.

¹⁸⁵ “Explore the Woodland,” About, Return Home, <https://returnhome.com/the-woodland/>.

environmental benefits.¹⁸⁶ This number was up from 55.7% in 2021 and is projected to continue to rise as more options become available.¹⁸⁷

¹⁸⁶ NFDA, “Statistics.”

¹⁸⁷ NFDA, “Statistics.”

Chapter 5

Ethical Concerns Within the United States Funeral Industry

Gaps in the ethical guidelines for the United States funeral industry are found largely surrounding the consideration of environmental impacts of contemporary practices and disposition methods. This lack of environmental ethics in the industry is indicative of a failing to consider the ways in which human behavior and intervention in ecosystems have long lasting impacts on the planet. This chapter provides an examination of the existing ethical guidelines surrounding the funeral industry, the overseeing bodies which enforce them, and the gaps where environmental concern falls by the wayside. It also introduces philosophical principles which act as a starting point for the development of further and more concrete ethical codes, policies and legislation surrounding the funeral industry.

5.1 Introduction to Funeral Industry Ethics

The ethical governance of the funeral industry in the United States is primarily focused on the prevention of financial abuse against families of the deceased. Legislation at the national level within the United States regarding the funeral industry focuses on the commercial practices of the industry.¹⁸⁸ This legislation can be found in Title 16 of the

¹⁸⁸ National Archives, “16 CFR Part 453,” <https://www.ecfr.gov/current/title-16/chapter-I/subchapter-D/part-453>.

Code of Federal Regulations, and under the Funeral Rule put in place by the Federal Trade Commission (FTC).¹⁸⁹ Further legislation regarding the funeral industry in the US is left up to the states and as such varies across the board. Ethical guidelines without legal teeth can be found from independent organizations, such as the NFDA.¹⁹⁰ These additional ethical guidelines are only expected to be followed by the opt-in members of those organizations and cannot be said to be applicable in a more general sense.

Some of those guidelines are even still more narrow, as the Code of Ethics available on the NFDA's website is specifically directed towards Certified Preplanning Consultants—those who work with individuals to set them up with funeral care packages before they need them.¹⁹¹ Even this code is primarily focused on the requirement that code-bound members provide price lists, answer questions honestly and fairly, and hold all legal licenses necessary to continue their work.¹⁹² These are all important tenets to uphold, but they cover a very narrow scope of behavior within the industry, and focus entirely on the element of human interaction.

Taking a broader view of ethics that incorporates treatment of nonhuman members of a community or society—especially the environmental component as

¹⁸⁹ “The FTC’s Funeral Rule: Helping Consumers Make Informed Decisions During Difficult Times,” Truth In Advertising, the Federal Trade Commission, <https://www.ftc.gov/news-events/topics/truth-advertising/funeral-rule>.

¹⁹⁰ “NDFCA Code of Professional Conduct,” About NFDA, National Funeral Directors Association, <https://nfda.org/about-nfda/code-of-professional-conduct>.

¹⁹¹ “CPC Code of Ethics,” NFDA Certified Preplanning Consultant Education, National Funeral Directors Association, <https://nfda.org/education/certification-programs/cpc-code-of-ethics#:~:text=I%20will%20offer%20my%20services,funeral%20home%20that%20I%20represent>

¹⁹² NFDA, “CPC Code of Ethics.”

proposed by Kimmerer and Bennett—the funeral industry is sorely lacking comprehensive ethical guidelines.

In order for guidelines to be both effective and reasonably applied, they must be implemented at a policy and legislative level and apply to industry actors such as corporate funeral homes across the board, rather than as opt-in programs for individuals and service providers who are already committed to going beyond state and federal requirements. This is particularly important in establishing standards for environmental care, due to the fact that the homogenous corporatization of the funeral profession—exemplified by the rise of Service Corporation International (SCI); the largest provider of funeral, cemetery, and cremation services in the United States—means there are widespread limitations on consumer choice surrounding deathcare.¹⁹³

SCI controls 1,471 funeral homes and 488 cemeteries across the U.S., most of which were pre-existing businesses that were purchased by the corporation and retain their original family names.¹⁹⁴ This method of purchasing local funeral homes and retaining their family branding reduces the visibility of the immense corporation behind the conditions of the industry across the board. Consumers may not even be aware that they are working with an SCI owned funeral home, and even if they wish to avoid the company, there may not be non-SCI funeral homes in their area. SCI’s low-profile buying practices contribute to the dearth of information and difficulty of access to

¹⁹³ Nicholas V Ille, “Who is Service Corporation International (SCI)?” Funeral Trends, US Funerals Online, March 30, 2023, <https://www.us-funerals.com/who-is-service-corporation-international-sci/>.

¹⁹⁴ US Funerals Online, “Who is SCI?”

alternative options, and potentially to the lack of progress related to the expansion of alternative deathcare methods.

Individuals and families cannot be expected to choose options that are actively more difficult to access in the name of ethics—the onus must fall to the industry to ensure that the choices presented are considerate not only of the consumers, but of the environment as well. It is the responsibility of the industry to alter its behavior across the board to be more in line with ethical standards, not the responsibility of individual consumers to make personal choices to make up for the industry’s deficiencies. Therefore, it is the responsibility of policy and legislation to form guidelines and enforce them, as the industry is unlikely to make broad internal changes to hold itself accountable. Guiding power and the push for policy change must be made by citizen political power, rather than consumer power, as the economics of the consumption of deathcare do not pose a strong enough incentive to create change.

Even if more consumers were to demand greener deathcare options on an individual level, the scale at which death occurs in the United States would preclude these choices from having a sustainable impact. According to the Centers for Disease Control (CDC), in 2021 there were 3,464,231 registered deaths in the United States.¹⁹⁵ The NFDA keeps track of trends in disposition choices across the country, and reported that in 2021, approximately 60% of Americans choose standard cremation in a crematory retort, which is approximately 2,078,539 cremations.¹⁹⁶ That percentage is expected to continue to rise, in conjunction with rising death rates as the United States population

¹⁹⁵ CDC, “Deaths and Mortality.”

¹⁹⁶ NFDA, “Influence of Rising U.S. Cremation Rates,” 5.

ages.¹⁹⁷ The cremation rate illustrates just one facet of the environmental impact the funeral industry has, as embalming and burials add additional resource requirements and introduce other types of pollutants into the environment.

It is also important to note that funerary choices are partially driven by complicating cultural factors, which inform individual attitudes towards deathcare. For example, in the Western Canon of science and philosophy the concept of The Great Chain of Being underpins much of the work regarding humanity's separation from the rest of nature as a more complex and greater category of being, and humanity's separation from the divine as a lesser being; all as part of a hierarchy creating a greater whole.¹⁹⁸ Setting humanity apart from the rest of organic matter—the opposite of vibrant materiality that Bennett argues for—deathcare for humans requires a certain amount of dignity not necessary for the disposition of other, or lesser, organic matter.¹⁹⁹

It would be unethical to expect that individuals and families eschew their personal beliefs in order to make individual choices to mitigate impacts of the funeral industry—rather, policies from independent overseeing bodies, and legislation at the state and federal levels requiring environmental considerations be made within the industry would create conditions where environmental harm is mitigated when traditional choices are made, and more environmentally friendly deathcare practices can be standard choices.

¹⁹⁷ NFDA, “Influence of Rising U.S. Cremation Rates,” 5.

¹⁹⁸ New World Encyclopedia, “Great Chain of Being.” ; Britannica, “Great Chain of Being.”

¹⁹⁹ Bennett, *Vibrant Matter*, ix.

5.2 Current Ethical Guidelines

Currently, ethical guidelines for the funeral industry come from a few key places. First, The FTC maintains the Funeral Rule, a set of standards for funeral homes which requires price transparency and seeks to mitigate price gouging and prevent deceptive sales tactics.²⁰⁰ These policies all seek to protect the consumer from predatory engagement between business, and customer and make no mention of the responsibility the funeral industry has to the environment outside of where it must act in line with varying legislation regarding the transportation of remains across state lines.²⁰¹ For example, the FTC requires that funeral homes do not provide nor charge for unrequested services such as embalming—except in cases where state legislation makes such a purchase required.²⁰² It also requires that funeral homes provide transparent pricing and cost-lists to consumers for casket sales, and have information on all models available for purchase, though there are no requirements that all models be displayed for consumers, nor mentioned in more depth than being present on the list.²⁰³

These guidelines are in place because the FTC knows that “the average casket shopper buys one of the first three models shown,” and according to research from the NFDA, families in the process of making deathcare decisions for a loved one are likely to call only one funeral home.²⁰⁴ This research has been used in predatory ways in the past, such as when now-defunct funeral corporation The Loewen Group used these statistics to

²⁰⁰ FTC, “Funeral Costs and Pricing Checklist.”

²⁰¹ FTC, “Funeral Costs and Pricing Checklist.”

²⁰² FTC, “Funeral Costs and Pricing Checklist.”

²⁰³ FTC, “Funeral Costs and Pricing Checklist.”

²⁰⁴ FTC, “Funeral Costs and Pricing Checklist.” ; NFDA, “Trends in Deathcare Preferences Among U.S. Consumers,” 11.

justify marking up casket prices to show consumers, in order to drive profits.²⁰⁵ The FTC’s ethical guidelines and public education initiatives seek to mitigate behavior like that of the Loewen Group, and arm consumers with information necessary to protect themselves, but they remain focused on a small segment of the issues present within the funeral industry.

A particular example of where the environment is overlooked by regulatory bodies like the FTC lays out concerns the sale of supposedly “protective” caskets, and grave liners or vaults.²⁰⁶ These are caskets—usually metal—which feature rubber gasketing, sold usually under the notion that they will protect the remains inside *from* nature. They are supposedly meant to prevent water from leaking inside, and when used in conjunction with grave liners or vaults—cement casings that hold the casket underground and keep it away from the dirt—they are labeled as “protective” to the remains. They cannot be advertised as prolonging the preservation of remains within the casket, because they do not. In fact, a supposedly protective casket is often to the detriment of the remains inside, as the anaerobic bacteria associated with decay thrive in the hermetically sealed space, expediting decay and causing pressure to build that results in caskets leaking or exploding.²⁰⁷

Despite the fact that these caskets essentially do the opposite of their advertised functions and are contributing to the amount of extraneous wasted resources being put

²⁰⁵ Nina Bernstein, “Brash Funeral Chain Meets Its Match in Old South,” *The New York Times*, January 27, 1996, <https://www.nytimes.com/1996/01/27/us/brash-funeral-chain-meets-its-match-in-old-south.html>. ; The Loewen Group, INC., and Raymond L. Loewen v. United States, Case No. ARB(AF)/98/3.

²⁰⁶ FTC, “Funeral Costs and Pricing Checklist.”

²⁰⁷ Harris, *Grave Matters*, 44.

directly into the environment in cemeteries, the FTC’s guidance surrounding them entirely avoids the subject of their environmental detriment and focuses on informing consumers to not be taken in by vague language. These warnings for consumers to be aware of predatory behavior within the industry showcase that the current ethical guidelines are the bare minimum for how to treat families, and that while there are laws on the books, bad actors within the industry are consistently attempting to fly just below the legal limits to their behavior. Additionally, while current guidelines for how to treat consumers and families are bare minimum, at least they are in place.

Another source of ethical guidance for the industry comes from the NFDA and is essentially the industry attempting to police itself. Each year, the NFDA releases an annual report on cremation and burial, which tracks trends in the industry surrounding consumer choices in deathcare and their impacts on the success of the industry. In both the 2021 and 2022 reports, the NFDA saw increasing numbers of cremations and alternative disposition options and decreasing numbers of burials across the United States and Canada.²⁰⁸ This continuing change in body disposition choices across North America raises concerns for the profit margins of funeral homes, as cremation and other non-burial options are generally lower cost.²⁰⁹

The NFDA report states plainly that “the increasing cremation rate has been the most significant challenge to the funeral service industry because cremation is generally performed at a much lower cost than casketed burial.”²¹⁰ As well as that, because most

²⁰⁸ NFDA, “Influence of Rising U.S. Cremation Rates,” 4. ; NFDA, “U.S. Cremation and Burial Trends,” 7.

²⁰⁹ NFDA, “Influence of Rising U.S. Cremation Rates,” 4.

²¹⁰ NFDA, “Influence of Rising U.S. Cremation Rates,” 5.

funeral homes have to hire third-party crematories, and increased labor needs due to higher death rates caused by an aging population, funeral homes will be unlikely to be able to restructure, also cutting into profits.²¹¹ Though the NFDA purports to uphold ethical standards for the treatment of consumers in the industry, its clear emphasis on concern over profit loss, and associated incentive to push profit-driven services harder on those who do opt for more traditional and all-encompassing services displays a conflict of interest. This is especially notable as the NFDA itself is explicitly aware that two of the major driving factors behind consumers' movement towards cremation and other alternatives are perceived lower cost, and higher environmental friendliness.²¹² This blatant prioritization of profit concerns over consumers and the environment in internal communications highlights a need for external ethical guidance that prioritizes the environment over the conditions of the industry.

Other organizations do inform ethical guidelines for the funeral industry, though they also focus on the protection of the consumer in the industry and leave gaps when it comes to guidelines specifically relating to the environment. The Funeral Consumers Alliance (FCA) does important work to equip families and individuals with knowledge and a plan for their funeral planning journey.²¹³ It is the only consumer organization monitoring the funeral industry at a national level, working with consumers directly to prepare them to interact with the industry, and as a body fighting for legislation and regulations on local, state, and national levels to bring change to the entire industry.²¹⁴

²¹¹ NFDA, "Influence of Rising U.S. Cremation Rates," 5.

²¹² NFDA, "Influence of Rising U.S. Cremation Rates," 4.

²¹³ "Home," Funeral Consumers Alliance, <https://funerals.org/>.

²¹⁴ FCA, "About Funeral Consumers Alliance."

According to the FCA’s bylaws, the purpose of the organization is to “promote and protect consumer choice in determining the type of funeral or memorial services desired,” and “promote and encourage the reduction of unjustifiable costs of burial, cremation, and other body disposition options.”²¹⁵ The organization does so by raising public awareness of funeral options, including alternatives such as home funerals, exposing abuses within the industry, and monitoring industry trends and practices as a watchdog for consumer interests.²¹⁶

Another organization doing important work in further establishing and strengthening existing ethical guidelines of the funeral industry is the National Home Funeral Alliance (NHFA). The NHFA is committed to making a home funeral an achievable reality for anyone who wants it.²¹⁷ The NHFA does this through the production and distribution of educational materials, and the bringing together of professionals within the funeral industry, advocates for alternative deathcare, and consumers and individuals interested in pursuing other options for funerals. According to the NHFA, part of what drew their members together was creating a space for people who want to “support the movement from institutionalized care back to family care of [their] own dead.”²¹⁸ The NHFA is self-reportedly a space of education, not professional certification, and they embrace all individuals looking to support the home funeral movement, whether they are current members of the industry, anti-funeral home, or

²¹⁵ “Article II—Purposes,” Bylaws, Funeral Consumers Alliance, last amended November 2019.

²¹⁶ FCA, “About Funeral Consumers Alliance.”

²¹⁷ NHFA, “Our Vision & Values.”

²¹⁸ “Our History,” National Home Funeral Alliance, <https://www.homefuneralalliance.org/our-history.html>.

somewhere in the middle.²¹⁹ While this intersection is valuable to informing and protecting consumers in the field, it does little to push for environmental reform, which is not one of the stated goals of the NHFA in the first place.

Another angle of ethical concerns within the funeral industry, and one that is much more legislated than the treatment of consumers within the industry is the treatment of the deceased. Legislation against the abuse of corpses, such as Colorado legislation preventing practices that would offend “normal family sensibilities” is common but vague, and largely is intended to protect against mistreatment of remains such as cannibalism, necrophilia, grave robbing or looting, or display of stolen remains within cultural institutions.²²⁰ Additional ethical guidelines for the treatment of the deceased are meant to ensure that families can trust the funeral homes they work with, and that they can be sure they will receive the correct remains returned to them. For example, in cases of standard retort cremation, in that only one individual can be cremated at a time, and their cremated remains be labeled clearly, kept separate from others, and returned in a timely and safe manner to the family.²²¹ These regulations are important, but remain entirely unrelated to the environmental impacts of the funeral industry.

5.3 Current Environmental Guidelines

It is evident there is a gap in the ethical considerations surrounding the funeral industry in terms of the environmental impacts prevalent practices have. The primary

²¹⁹ NHFA, “Our Vision & Values.”; NHFA, “Our History.”

²²⁰ [CO Code § 18-13-101 \(2022\)](#)

²²¹ CANA, “Cremation Process.”

organization regarding environmental ethics specifically within the funeral industry is the Green Burial Council (GBC). The GBC hosts the largest body of research in support of green burial practices, and their mission is to “inspire and advocate for environmentally sustainable, natural death care through education and certification.”²²² The GBC places primacy on the respect for funeral rituals and traditions, while working to honor the earth and operate sustainably to preserve both the planet and funerary practices for the future.²²³ Founded in 2005, the GBC was intended to provide certifications for funeral providers who met green burial standards.²²⁴ The GBC expanded in 2015 to form Green Burial Council International, which took on the purpose of education of both providers and the public interested in making more ecologically friendly funerals possible.²²⁵

The GBC was founded initially to bring together experts in the grassroots movement to one place, to establish standards of care for the deceased and the environment in green burials, and to center the planet and the impacts of funerals in the discussion. Today, the Green Burial Council works to provide environmental research in support of hybrid, natural, and conservation cemeteries to the public, interacts with state and national legislation on the subject of green burial and the implementation of green cemeteries, and offers certification to burial grounds, funeral homes, and funerary products in compliance with GBC standards.²²⁶ These certifications are some of the only

²²² “Mission, Vision, and Values,” Green Burial Council, https://www.greenburialcouncil.org/our_mission.html.

²²³ GBC, “Mission, Vision, and Values.”

²²⁴ GBC, “History of the GBC.”

²²⁵ GBC, “History of the GBC.”

²²⁶ GBC, “Statement on Minnesota.”; Orenstein, “Minnesota paused ‘green burials.’”; “What is GBC Certification?” Green Burial Council, https://www.greenburialcouncil.org/why_certification_matters.html.

guidelines for what is considered care for the environment in cemetery spaces, and are the standards for what a green burial consists of. The GBC certifies cemeteries specifically within three categories, hybrid cemeteries—where a portion of a conventional cemetery does burials without grave liners or vaults and embalming, and uses biodegradable containers, natural cemeteries—a dedicated cemetery where all burials adhere to the three principles listed, and conservation cemeteries—where the land being used for burial is also being preserved for environmental reasons.²²⁷

The GBC’s criteria for what constitutes a Green Burial act as guideposts for the development of future more explicit ethical policies and legislation surrounding the funeral industry’s responsibility to the environment. Requirements of “minimal environmental impact” in practices, with additional emphasis on conservation of natural resources, focus on reducing carbon emissions and restoration or protection and preservation of natural environments show the way towards sustainability in the industry, if all deathcare practices were to attempt to adhere to these goals.²²⁸

While the work of the Green Burial Council does provide a solid foundation for the consideration of environmental ethics in the United States funeral industry, they are only one organization and can only do so much. Additional locally formed offshoots of the GBC—such as Blue Ridge Green Burial in Floyd, VA—extend the impact of the GBC at the community level, however impact remains limited by the capacities of these smaller groups. Additionally, funeral homes and professionals who adhere to GBC guidelines and seek GBC certifications are already invested in the environmental aspect

²²⁷ GBC, “GBC Quick Facts.”

²²⁸ “GBC’s Green Burial Ground Criteria,” Green Burial Defined, Green Burial Council, https://www.greenburialcouncil.org/green_burial_defined-299610.html.

of the funeral industry and are already acting with the interests of the environment at heart.

This prerequisite of environmental concern and pre-existing commitment to improving the funeral industry means the GBC is not necessarily reaching a broad audience or impacting the behavior of people not already invested in environmental care. Additionally, the GBC is a legally independent and primarily educational organization. Though it contributes to conversations surrounding legislation and regulation at the state and federal level it is incapable of enforcing any of its criteria and requirements with legal teeth. In order for widespread and effective change to be feasible throughout the industry, governing bodies at local, state, and national levels must get involved, with a focus on the environment at the forefront of their work.

The Environmental Protection Agency has the ability to regulate and legislate treatment of the environment with legal ramifications for industries in defiance of the rules, many of which already cover potential funeral industry issues, however, their scope over the United States funeral industry is limited and their primary regulations relating to deathcare concern the legality of burial at sea. For example, the Safe Drinking Water Act, which limits public exposure to over ninety contaminants, is applicable to contamination of drinking water from the groundwater surrounding cemeteries, though the statute makes no specific reference to cemeteries and burial grounds.²²⁹ Expansion of legislation and regulations from bodies such as the EPA, or the incorporation of environmental concerns based on extant research and regulations at the state and federal levels are necessary for

²²⁹ “Safe Drinking Water Act (SDWA),” United States Environmental Protection Agency, last modified March 30, 2023, <https://www.epa.gov/sdwa>.

the implementation of environmental care improvements in the larger industry not already invested in ecological concerns.

Environmental ethics as applied to funerals and disposition practices are complicated by the fact that developments in scientific knowledge continue to advance, and practices that had previously been determined safe may in fact have unforeseen consequences. Perhaps the biggest ethical question surrounding the environment related to American cemeteries is one that can be borrowed from other disciplines of environmental conservation. Is it ethical to continue practices new scientific research tells us are harmful to the environment? Secondly, is it ethical to continue practices where emerging science indicates future harm is possible? Examining environmental impacts through the ethical lens of “what is good for society?” requires that the environment be considered as a part of society, that communities are made up of more than the human beings who live in them.²³⁰

5.4 Environmental Ethical Considerations

Robin Wall Kimmerer, in her text *Braiding Sweetgrass* discusses the idea of the expansion of society through the consideration of ‘the Nation of the Maples’ and how the maple trees where she lives provide invisible services to the people who live among them.²³¹ Through the provision of shade, firewood, and windbreaks, the trees play an important role in the community—one often overlooked by those who do not purposefully seek their value.²³² Kimmerer also presents the concept of “reciprocity”—an

²³⁰ Kimmerer, “Maple Nation,” 169.

²³¹ Kimmerer, “Maple Nation,” 169.

²³² Kimmerer, “Maple Nation,” 168.

important philosophy that comes from Indigenous wisdom.²³³ Reciprocity, as defined by Kimmerer, is a concept of connection, of love, of taking and giving in if not entirely equal measure, then in a purposeful way to try and even out the balance.²³⁴ In concrete terms, one example of reciprocity might be through reforestation of diverse native species in areas impacted by logging, with emphasis placed on effective restoration of the full environment rather than only the reintroduction of species humans have deemed useful.

Reciprocity is a strong example of a philosophical guidepost for anthropocentric virtue environmental-ethics, an ethical model that focuses on the way humans behave in their relationship to the environment, and their responsibilities to engage in positive behaviors rather than those that do harm. Kimmerer's works focus on integrating reciprocity with continuously advancing scientific knowledge as a guide for determining ethical behavior. In introducing reciprocity as a concept, Kimmerer asks us to consider the things we take for granted that we receive from the earth, and the fact that humans spend all of our lives receiving what we need from the planet because there is quite literally no other way to survive.²³⁵ That is the key to reciprocity; realizing that human lives are sustained by the environment around them, and that in turn humans must sustain that environment for the good of us all. The goal of embracing reciprocity on a wide scale is to create a population which cares for all environments and seeks to act sustainably in all of their engagement with the environment.

²³³ Kimmerer, "Epiphany in the Beans," 123.

²³⁴ Kimmerer, "Epiphany in the Beans", 123.

²³⁵ Robin Wall Kimmerer, "Returning the Gift," *Humans and Nature*, October 1, 2013, <https://humansandnature.org/earth-ethic-robin-kimmerer/>.

Reciprocity as a consideration in the corporate United States funeral industry is a somewhat novel concept because it does not necessarily mesh well with historical colonialist impulses towards manifest destiny, the prosperity gospel, and capitalist conceptions of land management that view the earth and the environment as inanimate resources to be owned, rather than members of society to be cared for and engage in a mutually beneficial relationship with. The corporate funeral industry bases itself on these Western principles, centering the idea that a burial plot in a cemetery is a space owned by the family and the deceased, with the inherent purpose of perpetual use *only* as a burial space. The land is imbued with meaning because it contains the remains of the deceased, that is its purpose, and the associated environmental costs are an inherent and immutable component of the land fulfilling its purpose.

Reciprocal consideration of the environment and the use of funerary practices as a way to give back to the earth which has supported the lifetime of the deceased has been embraced by activists and proponents of the green death movement, but it remains a more fringe standpoint in wider spreads of American society. Though the NFDA reports that growing numbers of Americans are seeking funerary options and disposition methods that are more environmentally friendly, the conversation remains centered around technologies with the least visible ecological costs and has yet to extend into the ways funeral traditions might serve to truly benefit local ecosystems outside of groups already dedicated to the Green Death Movement. In this way, reciprocity remains a radical concept in the United States funeral industry, even as it may be embraced by wider environmentalist circles regarding other concerns.

Using reciprocity as a philosophical starting point for ethical guidelines in the funeral industry perhaps brings up more questions than it answers. Ultimately, however, that is how ethics are determined—a question is posed and must be considered. Ideally each question answered and determinations about the acceptability of practices are revisited and reevaluated at regular intervals, in order to ensure that choices made continue to be for the common good. These further questions are linked to larger questions of sustainability and proper treatment of the environment. How do we determine what necessary levels of resource extraction are? Is there any justification for the introduction of known pollutants into the environment? Is there justification for taking the risk of new science determining that chemicals currently in use are harmful in ways we cannot predict, the same way the use of arsenic in the 1900s is still having impacts on cemetery groundwater today?²³⁶

None of these questions have easy or simple answers—can we condemn behaviors that we do not know for sure are harmful? Can we condemn behaviors from the past that practitioners had no way of knowing would cause harm hundreds of years later? There is no one answer. Ultimately however, any work towards the reduction of harm to the environment perpetuated by the funeral industry through guidelines, legislation, and regulation is more than the mainstream industry is currently working towards.

²³⁶ Brennan et al., “Groundwater Quality,” 11.

Chapter 6

Recommendations

The current iteration of the funeral industry in the United States perpetuates environmental-ethical harms through its practices and resistance to change. These harms are not an inherent part of the industry and can be mitigated. This mitigation is paramount to the improvement of the industry and the continuation of it in the United States. Previous chapters examined these ethical gaps surrounding the environment, and this one will make suggestions as to how the industry can change in order to become more sustainable, and more flexible in order to grow with improvements in technology and changing attitudes about death.

This change is important for the preservation of the funeral industry, and the increased care and concern for the environment, and improvement of environmental ethics within the industry. These suggestions should be seen as steps to be taken in service of an industrial mindset shift, one towards openness to growth and change. The problems plaguing the funeral industry in the United States are complicated by questions of race, gender, socioeconomic status and more, and cannot be solved with one size fits all solutions. It is important to remember that the ultimate goal in making changes to the industry is not to do away with it completely, but rather to preserve it, and to find ways forward that allow for it to continue to play a role in the lives and deaths of United States Americans.

When we look to the history of death and dying in this country, as well as on a global scale, we can see that the American way of death is a unique change from the

ways death has been handled previously. It could be referred to as a misstep, a failed model of interacting with death that places primacy on profit and transactional behavior, rather than community interaction and human care for the deceased and the environment. Because of this, it may seem appealing to say that the goal is a return to how things were before, or that the industry must revert in order to survive. However, it is impossible to go backwards in history, and there is no returning to what was before. Instead, the question at hand is what the American funeral industry will look like in the future, as it moves away from regressive “tradition” and into a post-embalming era. When considering the harm done to the environment there are two categories of mitigation; the reduction or elimination of currently harmful practices (pollutants, overly involved human intervention into nature), and the emphasis on consciousness and conscientiousness going forward in the establishment of new cemeteries.

The mitigation of environmental harm in the United States funeral industry relies on the regulation of the industry from external sources, as it cannot be expected that self-policing will have a strong enough influence to create broad change. Additionally, because the politics of consumption and economics through consumption are no longer the strongest or most compelling argument for change as they were in the 1960s, the mitigation strategies cannot rely solely on consumer choice having a large-scale impact on disposition practices and the funeral industry as a whole. Instead, mitigation strategies need to come from a place of citizen politics and be supported by both creating change within the industry that allows for greater choice and change within society that supports alternative choices being made. Exploration of these recommendations seeks to provide

support for both of these forms of mitigation, as well as provide narrative inroads for drawing the public into the Green Death Movement.

6.1 Industry Change Focused Mitigation

According to the USGS study at Mt. Hope, in Lansing, MI, as well as others across the globe, the primary factor in determining the base level of environmental impact perpetuated by cemeteries is the location. Human interaction and intervention within any given environment for our own purposes without consideration of our impacts will result in a level of environmental detriment inherently, but careful consideration of factors we can control, like choice of location, can help to mitigate that harm off the bat. Thus, one of the primary recommendations surrounding reduction of environmental harm perpetuated by cemeteries and the funeral industry is to make aware and informed choices about the locations of new cemeteries.

Soil science and research into decay show that different environmental factors have impacts on the processes and rates of decay of the human body, and there is abundant evidence that different environments have been used for different outcomes by societies across the globe throughout history. Anaerobic environments, such as bogs and caves that experience extreme cold create natural mummies, deserts create desiccated corpses that remain preserved, locations that are the right combination of wet, warm, and humid expedite decay. Institutions such as body farms help to examine the rates of decay and impacts of the environment on the human body as well.²³⁷

²³⁷ “Research,” Forensic Anthropology Center, University of Tennessee Knoxville, <https://fac.utk.edu/>.

The choices of location for cemeteries has a huge impact on the way in which the deceased will interact with the environment, and thus, what results of death the living in the area interact with as they participate in their environment.²³⁸ These choices are important regardless of if the cemetery being planned for is a modern cemetery in the conventional sense, with requirements for caskets and grave liners, or a natural cemetery, where the body goes into the ground unaltered. There will always be better and worse places to bury human remains, and part of being an ethical industry that shows care for the environment is taking those facts into consideration moving forward.

The GBC recommends that new cemeteries be established on flat land, that is not located in a flood zone, has little to no surface water, and is located away from expensive homes and wells.²³⁹ These recommendations are meant to ensure both the environmental friendliness of the cemetery, and its longevity, as environmental maintenance is still necessary on natural burial sites, though in a different manner than in traditional cemeteries. The GBC also recommends that cemeteries undergo regular ecological conditions examinations in order to ensure that the environment is being properly cared for and maintained, and to allow for changes to maintenance plans to be made at strategic points.²⁴⁰ These recommendations are particularly important for the proper establishment of new natural or conservation cemeteries, but they apply more broadly to the establishment of conventional cemeteries as well, in order to mitigate concerns surrounding groundwater contamination from traditional embalming practices. The

²³⁸ Brennan et al., “Groundwater Quality,” 20.

²³⁹ “Acquiring the Right Property,” Start Up Tips for Green Burial Cemetery Operators, Green Burial Council, 2016: 5.

²⁴⁰ “Maintenance,” Opening, Closing, and Maintenance of a Green Burial Grave, Green Burial Council, 2016: 5.

adoption of the GBC recommendations across the board is an easy initial step the funeral industry can take towards mitigating environmental harm caused by its practices.

The other, and perhaps more important, part of reducing environmental harm perpetuated by cemeteries is the reduction or elimination of the extraneous use of pollutants in the funeral industry. The recommendations in this category can be broken out into individual sources of pollution, but on the whole, the main goal is to make the conscious choice to stop purposefully placing harmful pollutants directly into the environment.

The first, and most likely easiest change to mitigate environmental pollution is the reduction or elimination of formaldehyde-based embalming. It is well-documented that embalming not only has impacts on the health and safety of funeral workers, but also on the environments it is placed in. The burial or cremation of embalmed bodies contributes to the direct addition of pollutants to the environment either through the inevitable decay of the body and chemical leaching into groundwater, or the combustion and aerosolization of the chemical compounds into the atmosphere. On the whole, it is a process that can be drastically reduced, if not stopped entirely.

While there are cases in which embalming is necessary, and complicating cultural nuances that would make it questionable ethically to outright ban the process, it is clear that there are other options that can and should be pursued in order to reduce the reliance on known carcinogens such as formaldehyde. Primarily, this cessation of the use of formaldehyde reduces the number of active pollutants being added to cemeteries, especially as research shows that formaldehyde-based embalming offers little return for a lot of effort. With the improvements in technology leading to biodegradable or otherwise

formaldehyde-free embalming fluids, it is both illogical and unethical to knowingly continue its use. The purpose of embalming is to be a preventative measure against decay, and while it is, it has both a limited timeline, and limited use.²⁴¹ Outside of particularly hardcore embalming, the process does not preserve the body long-term. Additionally, once interment has occurred, the process is entirely extraneous, as the purpose of preservation is for optics. When all of these factors are taken into consideration, it makes sense that if the process is to be continued, it needs to morph and change with current technological advancements and increases in knowledge surrounding the impacts the practice has on the environment. With the advent of other, less, or non-harmful embalming fluids, there are ways to preserve the practice and still serve the populations that utilize it while also committing to reduction of environmental harm.

Actionable suggestions for reducing the amount of formaldehyde-based embalming include the implementation of nationally informed legislation to reduce or eliminate the use of formaldehyde in embalming practices as a whole. While there will always be edge cases that require more heavy-duty processes, advances in the field have created several alternatives that do not require such toxic chemicals while still providing adequate preservation for the limited time needed for a viewing and burial or cremation.²⁴² The GBC has approved alternative embalming methods, including a solution of essential oils, however, due to the fact that proponents of natural alternatives to traditional industry methods are more likely to eschew embalming entirely, and

²⁴¹ Chiappelli and Chiappelli, “Drinking Grandma,” 25.

²⁴² “What about essential oils and green embalming fluid?” Natural Burial FAQ, Green Burial Council, https://www.greenburialcouncil.org/green_burial_defined.html

traditional professionals are adhering to formaldehyde methods due to dislike of the decreased effectivity of alternatives, there is a lack of publicly available information.²⁴³

The clear establishment of laws surrounding the use of formaldehyde and other toxic chemicals or known carcinogens in embalming processes, as well as the informing of the public of these laws would assist in reducing the amount of chemicals being introduced to the environment. Additionally, creating ethical guidelines and standardizing laws surrounding embalming as a whole nationwide, and committing to public education will go a long way towards reducing the potential amount of embalming solution being introduced to the environment at any given time. Current laws are implemented at the state level and vary based on what needs to be done to the remains, whether they need to be transported between state lines or not.²⁴⁴ Standardization of this legislation, supported by national guidelines, would work to reduce the amount of extraneous embalming, which would have a direct impact on reducing the amount of pollution added to the environment. Though these changes are proposed at the legislative level, rather than as fixes the funeral industry can implement directly, their ultimate goal is to reduce the use of formaldehyde within the industry, rather than change societal attitudes surrounding formaldehyde-based embalming. Reducing the industry's reliance on formaldehyde embalming is another attainable, actionable recommendation towards mitigating environmental harm.

²⁴³ Martin, "Embalmers Still Embrace Preservative."

²⁴⁴ "List of Legal Requirements," US State Requirements for Home Funerals, National Home Funeral Alliance, <https://www.homefuneralalliance.org/state-requirements.html#:~:text=Embalming%20Requirement%3A%20Body%20must%20be,when%20shipping%20by%20common%20carrier>.

Cemeteries are not the only point of pollution related to formaldehyde based embalming practices either. Funeral homes which perform embalming services release the waste of the process, primarily bodily fluids such as blood and carcinogenic contaminants in embalming fluids, into public management water systems at a regular rate. This waste is considered “non-sanitary” by the EPA and cannot be released where it has the potential to contaminate groundwater drinking sources.²⁴⁵ This regulation prevents funeral homes from being connected to septic tanks, as they do not have the capacity for treating the waste to treat for contaminants and run the risk of leaking into local water supplies. EPA regulations from 2007 that cover Virginia, West Virginia and Pennsylvania require any funeral homes which *are* connected to septic tanks use separate holding tanks for embalming waste, which is collected separately until it can be taken to water management plants, some of which may require pre-treatment to handle the concentration of contaminants present in combined embalming waste.²⁴⁶

Reduction of formaldehyde-based embalming in a legislative manner on state and federal levels will reduce the pressure on local water management plants to handle known carcinogen contaminants in such high volumes. The removal of formaldehyde from water management systems and cemeteries alike reduces or completely eliminates the risk of drinking water contamination at multiple source points, improving the health of environments surrounding the cemeteries and funeral homes which perform embalmings.

²⁴⁵ Harris, *Grave Matters*, 42.

²⁴⁶ Harris, *Grave Matters*, 42.

Additional environmental concerns surrounding cemeteries can be linked to the practice of using cement grave liners, and more heavily manufactured caskets.²⁴⁷ These practices have the dual purpose of being human interventions into the environment largely for aesthetic purposes, and supposedly preventing decay. Therefore, they fall under both the large-scale suggestions regarding making more sustainable new choices going forward and reducing the amount of pollution added to the environment through cemetery practices. Related to the goal of making sustainable choices regarding the location and treatment of new cemeteries, the discontinuation of the use of grave liners makes sense. If the goal is to find environmentally suitable places to promote healthy decay and create a reciprocal relationship between the deceased and the environment around them, creating separation and preventing that interaction through the use of cement grave liners and caskets is counterproductive. Their primary purpose in modern cemeteries is to maintain aesthetics and ease of lawn maintenance, as they keep the ground from shifting as decay occurs, which makes sense for the current iteration of cemeteries in the United States.²⁴⁸ However, within the goals of reducing environmental and ethical harm, they are tools of invasive human intervention within the environment, which is in direct opposition to the goal of greener cemeteries, and greener death in general.

Further, these grave liners and caskets are additional physical pollution being added to the environment when they are used in modern burial. Because they are not

²⁴⁷ All caskets go through a manufacturing process, but there are levels to the intensity of those processes and the extraneous resources they use. For example, gasketed or “protective” caskets provide no extra protection to the remains they hold, they are merely more expensive because more materials and time go into their manufacturing.

²⁴⁸ Harris, *Grave Matters*, 22.

beneficial to decay, and will break down in time anyway, they are essentially garbage that is being added to the environment for no benefit—their continued use is simply for aesthetics and optics. Therefore, an actionable recommendation to both reduce the amount of human intervention in the environment and make more sustainable choices going forward, and to reduce the environmental harm done by introducing extraneous pollutants in cemeteries is to reduce or eliminate the use of grave liners and more heavily manufactured caskets.

These requirements are made at the cemetery level so change will take time, though it is possible. The acceptance of natural burial practices in already existing cemeteries, as well as the commitment to establishing primarily natural burial cemeteries going forward will reduce the amount of excess burial material considerably. Additionally, published ethical guidelines for the funeral industry that discourage the up sale of “hermetically sealed” or otherwise fancily labeled yet effectively useless caskets will both reduce pollution in the form of fabrication chemicals, metal hardware, and treated wood will assist in both the reduction of extraneous material pollutants in cemeteries, and intensive mechanical human intervention in the environment for aesthetic purposes.

In the vein of reducing the environmental impacts of combustion cremation, efforts must be made to revisit the regulations surrounding crematoria pollution in the United States. The complete elimination of cremation as a practice is unlikely, as cremation rates continue to grow and are anticipated to rise to 73% of American’s disposition choices within two years.²⁴⁹ While there are emissions standards in place

²⁴⁹ NFDA “U.S. Cremation and Burial Trends,” 7.

from the federal level, crematoria have been considered low priority emissions concern in comparison to other sources of pollution and have lacked research on institutional scale.²⁵⁰

Cremation regulations at the state level are varied, with California having the most prominent further regulation of the number of cremations which can occur each month in their population centers, such as Los Angeles County.²⁵¹ Regulations surrounding crematory emissions at the national level need to be revisited by the EPA, both to determine if standards have been maintained since 2005 and to examine if developments in technology for combustion cremation have rendered the original standards too lenient. Additional states should look to California's regulations to model their own and manage air pollution. As the push for cremation alternatives will take time to expand options available to consumers, regulations and legislation surrounding the most readily available option will contribute to making it a more environmentally friendly choice in the interim.

6.2 Societal Change Focused Mitigation

In order to expand the access to alternative disposition options, the narratives surrounding the American way of death must expand, in conjunction with the presentation of factual information about the alternatives. Published support for the legalization and establishment of facilities for Alkaline Hydrolysis and Natural Organic

²⁵⁰ Kuchnicki, "Environmental Issues," 64.

²⁵¹ "Permits," South Coast Air Quality Management District, <http://www.aqmd.gov/home/permits>. ; "Permit requirements and Application Submittal Procedures," South Coast Air Quality Management District, <http://www.aqmd.gov/home/permits/permit-requirements-and-procedures>.

Reduction will help to break up the hold that the traditional industry has on the consumer base. Public education surrounding these alternatives will foster understanding and reduce the impacts of fearmongering among consumers and will help to make them more comfortable seriously considering other options. Arming the public with the necessary informational literacy to understand the disposition options presented is one inroad for encouraging people to embrace emergent technologies.

Another important part of public education and exposure to alternative disposition methods is the use of narrative and cultural touchpoints to guide the conversations surrounding emergent technologies. For example, the narratives surrounding Alkaline Hydrolysis tend to make references to popular horror concepts in the zeitgeist—earlier in 2023, an anonymous TikTok user stole footage from a documentary on the practice and published videos claiming liquified human remains were being fed directly to consumers through their tap water, and that the resulting bone fragments were being processed into vitamins and supplements to be sold in chain stores nationwide.²⁵² The 1973 film *Soylent Green* remains a primary cultural touchpoint, in which human remains are reduced to processed wafers which are fed to an unsuspecting public.²⁵³ References to the film range from callbacks in other popular media, such as a joke about “Soylent cola” in Fox Network’s animated comedy *Futurama*, to soy-based meal replacement smoothie company Soylent, and it remains an enduring relevancy even among those who have never seen the movie.²⁵⁴ When the immediate association with an

²⁵² Reuters, “Fact Check-Alkaline Hydrolysis.”

²⁵³ *Soylent Green*, directed by Richard Fleischer (Warner Brothers, 1973), 1:36:00, <https://www.amazon.com/Soylent-Green-Charlton-Heston/dp/B001QUM4IY>.

²⁵⁴ *Futurama*, “Fry and the Slurm Factory,” *Hulu* video, 22:32, November 14, 1999, <https://www.hulu.com/watch/6576420f-bebe-427d-950b-509f7d7a2065>, 13:12. ; “From

emergent process is one of science fiction and horror, it is unsurprising that consumers are wary of new technologies. Changing these associations requires both embracing new narratives and adopting existing ones and applying them in new ways.

For example, political figures and prominent individuals such as Desmond Tutu being upfront and open about making alternative choices helps to shift associations away from the idea that all disposition alternatives are “weird” or “creepy” and those who engage with them are on the fringes of society or must have strange reasons for pursuing other options. As a moral figurehead and prominent religious leader, Tutu’s choice to have his remains aquamated grants the process a respectability through the eyes of religious Americans—someone so important in the church surely would not make a disposition choice that goes against the tenets of his religion. Thus, for those who respect Reverend Tutu, the association of Alkaline Hydrolysis and the liquid dissolving of human remains shifts slightly, from one of horror literature and science fiction to a respectable option for them and their loved ones.

However, while role models such as Desmond Tutu making alternative deathcare choices helps to normalize these options in the eyes of a public who respects them, the work cannot fall solely to individuals.²⁵⁵ Rather, society as a whole needs to reconsider the ways in which it looks at death and dying as a process, and what its notions of propriety are surrounding the disposition of human remains. Narratives of respectability

the Beginning,” *The Soylent Story*, About, Soylent, <https://soylent.com/pages/about-the-company>.

²⁵⁵ Dustin Jones, “A Plain Pine Coffin and Eco-Friendly Cremation are the Last Acts of Desmond Tutu,” *NPR*, January 1, 2022, <https://www.npr.org/2022/01/01/1069676008/a-plain-pine-coffin-and-eco-friendly-cremation-are-the-last-acts-of-desmond-tutu>.

are not the only narratives that matter in the conversation surrounding deathcare and disposition options.

Additional narratives that could work to encourage consumers to consider alternative disposition methods include those of religion, and those of personal ethics and responsibility. An example comes from the Christian Book of Common Prayer, within Burial Service One. “we commend to Almighty God [name of the deceased]; and we commit [their] body to the ground; earth to earth, ashes to ashes, dust to dust.”²⁵⁶ This oft-repeated phrase brings to mind a sense of a cycle, a circle of life, a form of reciprocity. The remains of the deceased are being returned to the earth from whence they came—quite literally according to Christian belief that the first human was formed from the mud of the earth by God—and in that way, are being restored to their original state. It is a comforting cultural touchpoint for many, many people. It speaks to a sense of returning home, rejoining the earth as a believers’ soul rejoins their God.

Contemporary funeral practices, however, place direct barriers in the process of “earth to earth.” Cement grave liners and hermetically sealed caskets are explicitly meant to keep the earth away from the remains, and embalming practices are meant to prevent decay—stopping the return from dust to dust in its tracks. While it could be argued that this verse in the burial service is not meant to be *literal*, the dissonant narratives surrounding the commendation of the remains to the earth and the concurrent prevention of their decay are in discord. Rather, natural burial practices more fully embody the verse and its message. For those who find comfort in religion, and the idea that the remains of

²⁵⁶ Gregory Michael Howe, *The Book of Common Prayer* (New York: Church Publishing Incorporated, 2007,) 485.

their deceased loved ones have been returned to the earth in a respectful manner, this narrative may act as a draw to choosing alternative disposition methods.

For those who are not religious, or perhaps not even culturally Christian, religious narratives, or those of respectability supported by religious leaders such as Desmond Tutu, may not hold the same sway. Rather, narratives of personal responsibility may act as a stronger draw. Dr. Clark Wong exemplifies this narrative well, as his desire to be buried naturally stemmed largely from his personal ethics surrounding his treatment of the environment while he was alive. This narrative is widely applicable, and an easy way to invite those who have not considered the environmental impacts of their eventual death into the conversation. Part of the reason the funeral industry has continued the way it has for so long is the expectation that the contemporary way of death is the correct way of death, or the inevitable, only way of death. This is both incorrect, and an insidiously banal thought process, that even the most environmentally aware activist might fall into. Combatting this narrative, however, is as easy as introducing a new thought. If you, generally, spend your life trying to reduce your personal impacts on the planet—reducing your consumption of single use plastics, choosing more environmentally friendly methods of transportation, reducing water and electricity waste in your home, composting—why would you allow your death to be the most polluting act you ever participate in? Especially when it does not have to be.

There is already a vast audience of environmentalists, activists, and the environmentally-aware-and-concerned out there who are ready to hear this message. To embrace it and join the green death movement, and to commit to making greener deathcare choices for themselves and educating their loved ones. Education on the facts

of the green death movement is wonderful, and it is necessary to the success of emergent technologies being embraced by the industry. It cannot be the only method of drawing people to the movement and encouraging them to make alternative choices. These narratives serve to catch people's attention, to personalize the movement and the choices, and to better draw them towards making choices that are more beneficial to the environment.

Additionally, society at large needs to embrace these technologies and make them easily accessible to consumers across the board. Active participation of industry professionals in the push for legalization of new technologies such as Alkaline Hydrolysis and NOR are necessary to the acceptance of these practices. Though groups such as the GBC and the NHFA already prioritize green funeral practices and the accessibility of home funerals to the public, they are influential mostly to a self-selecting population, one which already is invested in environmental concerns. Groups with more sway over the mainstream funeral industry, and more interaction with the public at large such as the NFDA and the FCA showing their support for more environmentally friendly funeral practices will contribute to greater acceptance of said practices in public perception.

The green funeral movement has support from extremely varied sectors of the population—it is not solely made up of so-called eco-freaks or hippies. Harris notes in *Grave Matters* that those who seek environmental and alternative death practices are “regular folk,” they come from all walks of life, and all political affiliations, and are brought together under the umbrella of environmental alternatives through a common

interest—care for the environment as their last act on earth.²⁵⁷ It is easy to look at the movement for greener funeral practices as something on the fringes of society, those involved a little off beat or odd, when it is examined through the lens of the traditional industry most Americans are familiar with. With greater public education and open engagement across the ladder of inference with anyone interested it becomes clearer that it is not an exclusionary movement.

This public education can be fostered through the support for the expansion of local branches of advocacy groups such as the GBC, FCA, and NHFA. These groups do the valuable work of opening conversations surrounding death, funerary practices, grief, and the rights of consumers surrounding funeral planning and the industry. They bring interested parties from all sectors of the population into the conversation with one another, which is invaluable to the progress of green alternatives in the funeral industry.

A positive example of local activism through educational groups is Blue Ridge Green Burial in Floyd, Virginia, which hosts seasonal meetings open to all community members interested in learning more about deathcare alternatives and their rights surrounding natural funeral practices. Blue Ridge Green Burial is actively seeking to establish a natural burial ground in Floyd County, VA, and the work they do is invaluable to the members of the Floyd community who are seeking to expand access to alternative deathcare options in Southwestern Virginia.²⁵⁸ Local governing body support for branches of GBC and sub-organizations, as well as interaction with local funeral industry professionals will create inroads for community engagement that will anchor the natural

²⁵⁷ Harris, *Grave Matters*, 12.

²⁵⁸ “Our Purpose, Vision & Mission,” About Us, Blue Ridge Green Burial, <https://www.blueridgegreenburial.org/about>.

funeral movement in local communities. Local access points for interested parties are hugely important to the success of legislation and regulation at the state level, as they allow for organization and collective action.

As long as the legalization of emergent deathcare technologies is left up to the states, community organization on smaller scales remains necessary to the success of expansion of access. The ultimate goal of the green funeral movement is for an array of alternatives to be available to everyone, so they may make choices in line with their personal philosophies, desires, and commitments to the environment. Local access to education and organization opportunities, backed by national independent organizations such as the GBC and the NHFA provides the necessary structure for people to get involved in making change, while committing to improving their home communities.

Though all of these recommendations intend to address pieces of the puzzle to create a more ethical and less harmful form of death care in the United States, the biggest and most impactful way to reduce harms perpetuated by the American way of death is to change the American way of death entirely. The United States population currently faces a very prescriptivist view of deathcare, in that a funeral must occur one way or be one thing, in that alternative practices are denigrated, scoffed at, or dissuaded against through fear. Though there are certainly racial, cultural, and regional differences and vast amounts of personalization available in deathcare practices across the United States, the corporate funeral industry approaches the concept of death in America as having one to two acceptable solutions—burial, or cremation. These ideas about what the acceptable forms of funerary care form the basis for the industry's treatment of consumers and the deceased and remain based in the notions of White Christian respectability stemming

from the Civil War. While the personalization of deathcare along racial, regional, and even individual lines cannot be discounted, the basis of propriety in the funeral industry remains prescriptive.

This prescriptivist notion is upheld by the remnants of the longstanding cultural hegemony of respectability from the Civil War, and deconstructing it will have far reaching benefits, but it will take time. The goal is to create an industry that collaborates *with* its communities at local levels but has state and national support through legislation and ethical policies. Ideally, the growth of the industry will prioritize freedom of choice and community engagement and will reemphasize the human connection to the environment that is so necessary in all levels of deathcare. However, it will start with opening up death options slowly and at the local and state level.

Even as the green death movement is made up of a vast and diverse community across the United States, and as organizations such as the GBC and the NHFA provide community education in support of alternative practices, narrative, education, and access to choices within the funeral industry can only go so far. The funeral industry creating more space for alternative practices and emergent disposition technologies still reduces the final responsibility for change to the consumer. In order for change within the American way of death, options need to be accessible to consumers at more than just a baseline of legality. Political and ethical conditions need to be created in which consumers can make deathcare choices that fit with their personal values, while also emphasizing care for the environment.

Recommendations for societal ethical growth surrounding deathcare in the United States include the legalization of alternative options, like Natural Organic Reduction,

natural burial, and Alkaline Hydrolysis at the state levels, with national and institutional support. Currently there are six states in which Natural Organic Reduction is legal, and legislation is being brought forward more on a regular basis.²⁵⁹ Support from the funeral industry is fewer and far between, due to capitalistic impulse and concerns over loss of profit. Instead, an embrace of new technologies and new ways of caring for the deceased and at the same time benefiting the environment offer a growth opportunity for the industry, and a chance to remain relevant and current, and to grow as advancements in technology and social acceptance of alternative options continue. Open conversation and public education surrounding these alternative options to garner public support is hugely important to the push for legalization, as the roadblocks that exist can only be overcome by the clear recognition of public desire at a legislative level.

Beyond legalization, support for consumers to make more environmentally friendly choices is possible through social policies which encourage choices in line with environmental-ethical goals. The EPA already utilizes economic incentives in conjunction with more traditional regulations to encourage other forms of environmental consciousness, and these methodologies can also be applied to funeral choices and disposition methods for human remains.²⁶⁰ There is precedent for the fact that environmental incentives are effective at driving change both on the production and consumption sides of the economic equation and improve environmental conditions in the industries that the EPA focuses on.

²⁵⁹ States that have legalized Natural Organic Reduction include Washington, Colorado, Oregon, Vermont, California, Nevada, and New York.

²⁶⁰ “Economic Incentives,” United States Environmental Protection Agency, last modified August 24, 2023, <https://www.epa.gov/environmental-economics/economic-incentives>.

Economic incentives from the EPA aimed at the funeral industry might work in conjunction with legislation towards reducing pollution and environmental impacts by encouraging less of the use of harmful practices (such as formaldehyde embalming) through “monetary or near-monetary” pressures.²⁶¹ However, when the industry is entrenched in continuing to utilize harmful practices—such as the NFDA’s fight against the restrictions on formaldehyde—economic incentives can be aimed towards consumers to encourage them to make different choices.²⁶² Examples of these environmental incentives for consumers include tax credits or subsidization for making alternative disposition choices. The United States Department of Energy offers federal tax credits to consumers for the installation of solar photovoltaics (solar panels) on their private residences.²⁶³ Additional tax credits for solar installations are available in several states, including California, Texas, New York, and Virginia.²⁶⁴ The Department of Energy and the IRS also make tax credits available for the purchase of qualifying plug-in electric vehicles, which serves to extend the precedent for economic incentives being offered to consumers for making choices that benefit the environment.²⁶⁵

²⁶¹ EPA, “Economic Incentives.”

²⁶² NFDA News, “NFDA Making Your Voice Heard.”

²⁶³ “Homeowner’s Guide to Federal Tax Credit for Solar Photovoltaics,” Solar Energy Technologies Office, Office of Energy Efficiency and Renewable Energy, United States Department of Energy, last modified March 2023, <https://www.energy.gov/eere/solar/homeowners-guide-federal-tax-credit-solar-photovoltaics>.

²⁶⁴ Lauren Murphy and Lexie Pelchen, “Solar Tax Credit By State in 2023: The Ultimate Federal Solar Energy Tax Credit Guide,” *Forbes*, August 7, 2023, <https://www.forbes.com/home-improvement/solar/solar-tax-credit-by-state/>

²⁶⁵ “Electric Vehicle (EV) and Fuel Cell Electric Vehicle (FCEV) Tax Credit,” Laws & Incentives, Alternative Fuels Data Center, Office of Energy Efficiency and Renewable Energy, United States Department of Energy, last modified August 16, 2022, <https://afdc.energy.gov/laws/409>. ; “Credits for New Clean Vehicles Purchased in 2023 or After,” United States Internal Revenue Service, last modified June 22, 2023,

Actionable recommendations in this vein include the offer of federal and state tax credits to consumers for choosing more environmentally friendly disposition methods once they have been legalized. Alternative disposition methods tend to be less financially intensive than traditional funerary practices, and further reducing those associated costs through tax credits and other subsidization would help to encourage families and individuals to make alternative choices, as economics are one of the driving forces behind funeral choices. Credits could be easily offered for several different methods of disposition, and at the state level could be customized to better reflect the environmental needs of the individual state, with variations for the credits offered for Natural Organic Reduction, Alkaline Hydrolysis, or natural or conservation burial depending on what best serves each state's environmental conditions.

Actionable suggestions for the funeral industry to engage in societal change include getting involved in local and state activism to increase options available and engaging fully with death advocacy groups in their communities. The current state of the field is one of some tension, where it would seem that greener practices are in opposition to the traditional industry. Some of this tension and resistance is informed by a desire on the part of funeral industry professionals to not appear to have made mistakes in their practice, or to have done wrong by the deceased and their families in the past.²⁶⁶ Though this tension is understandable and while this perception may appear true at the moment, it does not have to be going forward.

<https://www.irs.gov/credits-deductions/credits-for-new-clean-vehicles-purchased-in-2023-or-after>.

²⁶⁶ *A Will for the Woods*, 17:40

Organizations like the National Home Funeral Alliance are models for sites of interaction between both traditional professionals, and advocates for alternative options, as well as regular folks who are interested in deathcare for them and their loved ones.²⁶⁷ The chance for individuals at all levels of involvement and coming from all different funerary ideological backgrounds allows for the development of conversations that can incorporate a broader swath of viewpoints—which is important for sustainable change that fosters a community mindset, rather than one of opposition. Social causes are much stronger when they are supported by factions of people brought together under a common goal, even if all of their interests do not necessarily line up perfectly. Getting involved at the community level and engaging in a human way with the individuals already doing the work is the fastest way for the funeral industry to reinvent itself and remain relevant as the green death revolution continues.

It must be noted that in all of these suggestions, there is the barrier that the decisions surrounding death, disposition practices, and the ways the deceased are treated at a legal level are left up to the states. This leaves a lot of room for variation and unequal or inequivalent application of standards that would do a lot for harm reduction. This thesis does not advocate for the removal of the states' rights in these scenarios, as there are reservations about suggesting that the federal government become overly involved in the processes of death and dying. There are also reservations about state governments being overly involved in telling folks what they can and cannot do with their deceased, however, death cannot be a wholly unregulated subject. There are important and valid reasons to have laws on the books surrounding the treatment of the deceased, and what

²⁶⁷ NHFA, “Our Vision & Values.”

can be done with human remains. Lest we forget the thousands of people who have had their remains stolen throughout history and put on display in museums or used for scientific research against their wishes.²⁶⁸

It is also understandable that death is a touchy subject for many, and the questions about what one can do with remains are fraught with not only ethical concerns, but emotional concerns as well. These emotional concerns are not an inherently bad thing. Where it becomes problematic is when those emotional concerns of a few become the deciding factor in limiting the rights of many. Fearmongering surrounding advancements in deathcare, or currently “alternative” practices such as Natural Organic Reduction and natural burial serve only to create division and reduce the options available to the dying and the deceased, as well as halt the acceptance of alternative methods which offer benefits to the environment.

Questions over who should be in charge of the legislation surrounding deathcare will remain, but for now, where legislation can be made streamlined and matching among states, it should be. Homogenization of state legislation will go a long way towards the establishment of overall ethical behavior within the industry in a way that reduces complications with interstate travel or interaction with the deceased. Additionally, while national legislation may not be a possibility, national or industry-wide guidelines on ethical behavior would not be out of place.²⁶⁹ The current industry exists in a state of

²⁶⁸ Jill Disanto, “Penn Museum Announces the Repatriation of the Morton Cranial Collection,” *Penn Today*, April 13, 2021, <https://penntoday.upenn.edu/news/penn-museum-announces-repatriation-morton-cranial-collection>.

²⁶⁹ In remains repatriation happening in museums, NAGPRA legislation is only legally enforceable in institutions that receive federal funding. However, private institutions often take the guidance of NAGPRA when developing their own repatriation requirements. A similar model could be applied to the funeral industry.

slight disarray, with a lack of ethical oversight from high places that make it more difficult to regulate behaviors lower on the ladder. Established ethical practices, even without legal teeth, especially if those practices are made available to the public, would increase public literacy on what they can expect when engaging with the industry, and will help to arm them with knowledge to make choices in line with their personal morals, religions, philosophies, and desires, especially those that currently fall outside of the mainstream industry.

Ultimately, the goal of reducing harm, and improving the ethical treatment of the environment by the funeral industry is complex and multifaceted. The reality is that complicating factors both on the consumer side of the equation, and the legislative and regulatory side of the industry make one size fits all solutions across the country difficult. However, if society as a whole works to become more aware of death and the industry's impacts, makes its aim general harm reduction and continued growth and change as new technologies and attitudes become available, and puts active effort into making actionable changes and meeting goals, it is more likely there will be success.

Bibliography

- Armus, Teo. “Northern Virginia Officials Wanted to Tax Plastic Bags for Years. And Now They Will.” *Washington Post*, September 19, 2021. <https://www.washingtonpost.com/dc-md-va/2021/09/19/plastic-bag-tax-fairfax-arlington/>.
- “Becoming Human compost: The Process of Natural Organic Reduction.” *Talkdeath*, June 21, 2022. <https://www.talkdeath.com/becoming-human-compost-the-process-of-natural-organic-reduction/#:~:text=The%20process%20was%20first%20legalized,process%20in%20several%20other%20states..>
- Bennett, Jane. *Vibrant Matter: A Political Ecology of Things*. Durham: Duke University Press, 2010.
- Bernstein, Nina. “Brash Funeral Chain Meets Its Match in Old South.” *New York Times*, January 27, 1996. <https://www.nytimes.com/1996/01/27/us/brash-funeral-chain-meets-its-match-in-old-south.html>.
- Blue Ridge Green Burial. “Our Purpose, Vision & Mission.” About Us. <https://www.blueridgegreenburial.org/about>.
- Bowman, Sam. “Your Guide to a Backyard Burial.” Green Burial Council, July 25, 2022. <https://www.greenburialcouncil.org/blog/your-guide-to-a-backyard-burial/#:~:text=Home%20burials%20are%20technically%20legal,Washington>.
- Brennan, Angela K. et al. “Preliminary Investigation of Groundwater Quality near a Michigan Cemetery, 2016-17.” USGS Scientific Investigations Report 2018-5120.
- Britannica. “Great Chain of Being.” Philosophy & Religion. <https://www.britannica.com/topic/Great-Chain-of-Being>.
- Browne, Amy, Jeremy Kaplan, Tony Hale, and Brian Wilson. *A Will for the Woods*. Reading, PA: Bullfrog Films, 2014. 61 minutes. <https://docuseek2-com.ezproxy.lib.vt.edu/bf-will2>.
- “Businesses Thriving on Conservation Properties.” *Upstate Advocate*. Upstate Forever, (Fall/Winter 2022-2023): 19.
- Campbell, Will. “From dust to dust — to compost in Clark County.” *The Colombian*, December 5, 2021. <https://www.columbian.com/news/2021/dec/05/from-dust-to-dust-to-compost-in-clark-county/>.
- Caplan, Zoe. “U.S. Older Population Grew From 2010 to 2020 at Fastest Rate Since 1880 to 1890.” 2020 Census: 1 in 6 People in the United States Were 65 and Over. United States

Census Bureau, May 25, 2023. <https://www.census.gov/library/stories/2023/05/2020-census-united-states-older-population-grew.html#:~:text=The%20U.S.%20population%20age%2065,the%20United%20States%20in%202020>.

Catechism of the Catholic Church. “Respect for the Dead.”
http://www.vatican.va/archive/ccc_css/archive/catechism/p3s2c2a5.htm.

Centers for Disease Control and Prevention. “Deaths and Mortality.” National Center for Health Statistics. <https://www.cdc.gov/nchs/fastats/deaths.htm>.

Chiappelli, Jeremiah, and Ted Chiappelli. “Drinking Grandma: The Problem of Embalming.” *Journal of Environmental Health* 71, no. 5 (December 2008): 24-29.
<https://www.jstor.org/stable/26327817>.

Chokshi, Niraj and Clifford Krauss. “A Big Climate Problem With Few Easy Solutions: Planes.” *New York Times*, May 28, 2021, updated June 2, 2021.
<https://www.nytimes.com/2021/05/28/business/energy-environment/airlines-climate-planes-emissions.html>.

[CO Code § 18-13-101 \(2022\)](#)

Cohen, Li. “New York City Air Becomes Some of the Worst in the World as Canada Wildfire Smoke Blows In.” *CBS News*, June 7, 2023. <https://www.cbsnews.com/news/new-york-city-second-worst-air-quality-in-world-canada-wildfire-smoke/>

Cornell Law School. “Ethics.” Legal Information Institute. Last modified December 2022.
<https://www.law.cornell.edu/wex/ethics>.

Coulson, Morgan, and Melissa Hartman, “What Is Harm Reduction?” Johns Hopkins Bloomberg School of Public Health, February 16, 2022. <https://publichealth.jhu.edu/2022/what-is-harm-reduction>.

Cremation Association of North America. “About CANA.”
<https://www.cremationassociation.org/page/AboutCANA>.

Cremation Association of North America. “Alkaline Hydrolysis.”
<https://www.cremationassociation.org/page/alkalinehydrolysis#:~:text=An%20Overview,a%20neutral%20liquid%20called%20effluent>.

Cremation Association of North America. “Cremation Process.”
<https://www.cremationassociation.org/page/CremationProcess>.

Cremation Association of North America. “History of Cremation.”
<https://www.cremationassociation.org/page/HistoryOfCremation>.

- Dale, Maryclaire. "Children Lost in Flooding as US Endures Extreme Weather, from Smoke up North to Heat in the West." *AP News*, July 17, 2023. <https://apnews.com/article/flash-flooding-pennsylvania-deaths-5219b726368ff78879599d7ee1728be6>
- Death Cafe. "Home." <https://deathcafe.com/>.
- Death Cafe. "What is Death Cafe?" <https://deathcafe.com/what/>.
- Death, et seq. "About Us." <https://deathetseq.com/about/>.
- Dickie, Gloria. "World Registers Hottest Day Ever Recorded on July 3." *Reuters*, July 5, 2023. <https://www.reuters.com/world/world-registers-hottest-day-ever-recorded-july-3-2023-07-04/>.
- Disanto, Jill. "Penn Museum Announces the Repatriation of the Morton Cranial Collection." *Penn Today*, April 13, 2021. <https://penntoday.upenn.edu/news/penn-museum-announces-repatriation-morton-cranial-collection>.
- Doughty, Caitlin. *Let's Visit the Human Composting Facility!* Ask A Mortician, 2021. 29 minutes. https://youtu.be/LJSEZ_pl3Y.
- Einhorn, Catrin. "A Project to Turn Corpses Into Compost." *New York Times*, April 13, 2015. <https://www.nytimes.com/2015/04/14/science/a-project-to-turn-corpses-into-compost.html>.
- "Executive Order 21-01x10." South Coast Air Quality Management District. April 23, 2021.
- Faust, Drew Gilpin. *This Republic of Suffering: Death and the American Civil War*. New York: Vintage Books, 2008.
- Faust, Drew Gilpin. "Death and Dying." Civil War Era National Cemeteries: Honoring Those Who Served. National Park Service. https://www.nps.gov/nr/travel/national_cemeteries/death.html.
- Federal Trade Commission. "Funeral Costs and Pricing Checklist." FTC, July 2012. <https://consumer.ftc.gov/articles/funeral-costs-pricing-checklist>.
- Federal Trade Commission. "The FTC's Funeral Rule: Helping Consumers Make Informed Decisions During Difficult Times." Truth In Advertising. <https://www.ftc.gov/news-events/topics/truth-advertising/funeral-rule>.
- Fleischer, Richard, director. *Soylent Green*. Warner Brothers, 1973. 1 hr., 36 min. <https://www.amazon.com/Soylent-Green-Charlton-Heston/dp/B001QUM4IY>.

- Franco, Dison SP., Jordana Georgin, Luis Angel Villarreal Campo, et al., “The environmental pollution caused by cemeteries and cremations: a review.” *Chemosphere* 307 no. 4, 1-13 (2022). <https://doi.org/10.1016/j.chemosphere.2022.136025>.
- French, Stanley. “The Cemetery as Cultural Institution: The Establishment of Mount Auburn and the ‘Rural Cemetery’ Movement.” in *Death in America*, edited by David Stannard, 69-91. Philadelphia: University of Pennsylvania Press, 1974.
- Funeral Consumers Alliance. “About Funeral Consumers Alliance.” <https://funerals.org/about/>.
- Funeral Consumers Alliance. “Article II—Purposes.” Bylaws, last amended November 2019.
- Funeral Consumers Alliance. “Home.” <https://funerals.org/>.
- Futurama. “Fry and the Slurm Factory.” *Hulu* video. 22:32, November 14, 1999. <https://www.hulu.com/watch/6576420f-bebe-427d-950b-509f7d7a2065>.
- Gladwin, Derek. “Ecocriticism.” Oxford Bibliographies. Last modified July 26, 2017. <https://www.oxfordbibliographies.com/display/document/obo-9780190221911/obo-9780190221911-0014.xml>.
- González-Cardoso, G., Hernández-Contreras, J.M., Valle-Hernández, B.L. et al. “Toxic atmospheric pollutants from crematoria ovens: characterization, emission factors, and modeling.” *Environ Sci Pollut Res* 27, 43800–43812 (2020). <https://doi.org/10.1007/s11356-020-10314-0>.
- Green Burial Council. “Acquiring the Right Property.” Start Up Tips for Green Burial Cemetery Operators, 2016.
- Green Burial Council. “Criteria and Characteristics of Green Burial.” Green Burial Defined. https://www.greenburialcouncil.org/green_burial_defined-299610.html.
- Green Burial Council. “Disposition Statistics.” https://www.greenburialcouncil.org/media_packet.html.
- Green Burial Council. “GBC’s Green Burial Ground Criteria.” Green Burial Defined. https://www.greenburialcouncil.org/green_burial_defined-299610.html.
- Green Burial Council. “GBC Publications.” https://www.greenburialcouncil.org/recommended_reading.html.
- Green Burial Council. “GBC Quick Facts.” <https://www.greenburialcouncil.org/gbc-quick-facts.html>.
- Green Burial Council. “History of the GBC.” <https://www.greenburialcouncil.org/history.html>.

- Green Burial Council. "Maintenance." Opening, Closing, and Maintenance of a Green Burial Grave, 2016.
- Green Burial Council. "Mission, Vision, and Values." https://www.greenburialcouncil.org/our_mission.html.
- Green Burial Council. "Statement on Minnesota's Green Burial Moratorium." <https://www.greenburialcouncil.org/>
- Green Burial Council. "United States." Cemeteries. <https://www.greenburialcouncil.org/cemeteries.html>.
- Green Burial Council. "What about essential oils and green embalming fluid?" Natural Burial FAQ. https://www.greenburialcouncil.org/green_burial_defined.html.
- Green Burial Council. "What is GBC Certification?" https://www.greenburialcouncil.org/why_certification_matters.html.
- Grove Street Cemetery. "Historic Grove Street Cemetery." <https://grovestreetcemetery.org>.
- Hamscher, Albert N. "Talking Tombstones: History in the Cemetery." *OAH Magazine of History* 17, no. 2 (2003): 40–45. <http://www.jstor.org/stable/25163579>.
- Harris, Mark. *Grave Matters: a Journey through the Modern Funeral Industry to a Natural Burial*. New York: Scribner, 2007.
- Heavenly Paws Aquamation. "How Does Alkaline Hydrolysis Work?" <https://www.heavenlypawsatlanta.com/news/aquamation-atlanta/how-does-alkaline-hydrolysis-work/>.
- Hennigan, W.J. "Lost in the Pandemic: Inside New York City's Mass Graveyard on Hart Island." *Time*. November 18, 2020. <https://time.com/5913151/hart-island-covid/>.
- Herring, Lucinda. *Reimagining Death: Stories and Practical Wisdom for Home Funerals and Green Burials*. Berkeley: North Atlantic Books, 2019.
- Higgins-Dunn, Noah, Berkeley Lovelace Jr. and Will Feuer. "FEMA Sends Refrigerator Trucks to NYC to Serve as Temporary Mortuaries for Coronavirus Victims." *CNBC*. March 30, 2020. <https://www.cNBC.com/2020/03/30/fema-sends-refrigerator-trucks-to-nyc-to-serve-as-temporary-mortuaries-for-deceased-coronavirus-patients.html>.
- Hijri, Zahra. "This Year Is Already on Track to Be the Hottest Ever Recorded." *Bloomberg*, July 17, 2023. <https://www.bloomberg.com/news/articles/2023-07-17/2023-is-already-on-track-to-be-the-hottest-year-ever-recorded>
- Howe, Gregory Michael. *The Book of Common Prayer*. New York: Church Publishing Incorporated, 2007.

- Ille, Nicholas V. "Who is Service Corporation International (SCI)?" *Funeral Trends*. US Funerals Online, March 30, 2023. <https://www.us-funerals.com/who-is-service-corporation-international-sci/>.
- Inciardi, James A, Lana D. Harrison. "Introduction: The Concept of Harm Reduction." in *Harm Reduction: National and International Perspectives*, edited by James A. Inciardi. Lana D. Harrison, vii-xx. Thousand Oaks: Sage Publications, 2000.
- "Influence of Rising US Cremation Rates on Funeral Service." *2021 NFDA Cremation & Burial Report*, (July 2021): 4-5.
- Jones, Dustin. "A Plain Pine Coffin and Eco-Friendly Cremation are the Last Acts of Desmond Tutu." *NPR*, January 1, 2022. <https://www.npr.org/2022/01/01/1069676008/a-plain-pine-coffin-and-eco-friendly-cremation-are-the-last-acts-of-desmond-tutu>.
- Kelly, Suzanne. *Greening Death: Reclaiming Burial Practices and Restoring Our Tie to the Earth*. Lanham, MD: Rowman & Littlefield Publishers, Incorporated, 2015.
- "Key External Influences on Funeral Service." *2021 NFDA Cremation & Burial Report*, (July 2021): 5-6.
- Kimmerer, Robin Wall. *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*. Canada: Milkweed Editions, 2013.
- Kimmerer, Robin Wall. "Returning the Gift." *Humans and Nature*, October 1, 2013. <https://humansandnature.org/earth-ethic-robin-kimmerer/>.
- Kuchnicki, Brad William. "Environmental Issues Associated with Crematoria: A Review." PhD diss., Creighton University, 2019.
- Laderman, Gary. *Rest in Peace: A Cultural History of Death and the Funeral Home in Twentieth Century America*. New York: Oxford University Press, 2003.
- Laderman, Gary. *The Sacred Remains: American Attitudes Towards Death, 1799-1833*. New Haven: Yale University Press, 1996.
- Laqueur, Thomas W. *The Work of the Dead: A Cultural History of Mortal Remains*. Princeton University Press, 2015. <https://doi.org/10.2307/j.ctvc77h3r.5>.
- Leber, Rebecca. "Fight Climate Change. End Fossilflation. Here's How." *Vox News*, August 12, 2022. <https://www.vox.com/science-and-health/2022/8/12/23290488/fight-climate-change-end-fossil-fuel-inflation>.

- Little, Becky. "The Environmental Toll of Cremating the Dead." *National Geographic*, December 5, 2019. <https://www.nationalgeographic.com/science/article/is-cremation-environmentally-friendly-heres-the-science>.
- The Loewen Group, INC., and Raymond L. Loewen v. United States. Case No. ARB(AF)/98/3.
- Marsh, Tanya. *The Law of Human Remains*. Tucson: Lawyers & Judges Publishing, 2015.
- Martin, Andrew. "Despite Risk, Embalmers Still Embrace Preservative." *New York Times*, July 20, 2011. <https://www.nytimes.com/2011/07/21/business/despite-cancer-risk-embalmers-stay-with-formaldehyde.html>
- McGee, Andrew. "Where is Aquamation Legal? Which States Have Legalized Aquamation or Bio Cremation?" Green Funerals or Natural Burial. US Funerals Online, July 8, 2023. <https://www.us-funerals.com/where-is-aquamation-legal-which-states-have-legalized-aquamation-or-bio-cremation/#.ZBy8cHbMKUk>.
- Memorial Ecosystems. "Ramsey Creek Preserve History." https://www.memorialecosystems.com/ramsey_creek_preserve_history.html.
- Merriam-Webster.com*. s.v. "Deathcare." <https://www.lib.sfu.ca/help/cite-write/citation-style-guides/chicago/encyclopedias-dictionaries>.
- Meyers, Maureen S., David Breetzke, and Henry Holt. "Arsenic and Old Graves: A Method for Testing Arsenic Contamination in Historic Cemeteries." *Advances in Archaeological Practice* 9, no. 1 (2020): 1–7. DOI:10.1017/aap.2020.41
- Mitford, Jessica. *The American Way of Death Revisited*. New York: Vintage Books, 1998.
- Murphy, Lauren, Lexie Pelchen. "Solar Tax Credit By State in 2023: The Ultimate Federal Solar Energy Tax Credit Guide." *Forbes*, August 7, 2023. <https://www.forbes.com/home-improvement/solar/solar-tax-credit-by-state/>.
- National Archives. "16 CFR Part 453." <https://www.ecfr.gov/current/title-16/chapter-I/subchapter-D/part-453>.
- National Funeral Directors Association. "Advocacy Overview." Overview. <https://nfda.org/advocacy/overview>.
- National Funeral Directors Association. "CPC Code of Ethics." NFDCA Certified Preplanning Consultant Education. <https://nfda.org/education/certification-programs/cpc-code-ofethics#:~:text=I%20will%20offer%20my%20services,funeral%20home%20that%20I%20represent>

- National Funeral Directors Association. “NFDA Making Your Voice Heard in EPA Review of Formaldehyde.” NFDA News, December 23, 2022. <https://nfda.org/news/in-the-news/nfda-news/id/6702/nfda-making-your-voice-heard-in-epa-review-of-formaldehyde>.
- National Funeral Directors Association. “NFDA Code of Professional Conduct.” About NFDA. <https://nfda.org/about-nfda/code-of-professional-conduct>.
- National Funeral Directors Association. “Statistics.” Media Center. Last updated April 15, 2022. <https://nfda.org/news/statistics>
- National Harm Reduction Coalition. “Principles of Harm Reduction.” <https://harmreduction.org/about-us/principles-of-harm-reduction/>.
- National Home Funeral Alliance. “Frequently Asked Questions.” <https://www.homefuneralalliance.org/faqs.html>
- National Home Funeral Alliance. “List of Legal Requirements.” US State Requirements for Home Funerals. <https://www.homefuneralalliance.org/us-state-requirements-for-home-funerals.html>
- National Home Funeral Alliance. “Our History.” <https://www.homefuneralalliance.org/our-history.html>.
- National Home Funeral Alliance. “Our Vision & Values.” <https://www.homefuneralalliance.org/our-vision--values.html>.
- Neckel, Alcindo, Carlos Costa, Débora A. Nunes Mario, et al., “Environmental Damage and Public Health Threat Caused by Cemeteries: A Proposal of Ideal Cemeteries for the Growing Urban Sprawl.” *Brazilian Journal of Urban Management* 9, 216-230 (2017). DOI:[10.1590/2175-3369.009.002.ao05](https://doi.org/10.1590/2175-3369.009.002.ao05)
- New World Encyclopedia. “Great Chain of Being.” https://www.newworldencyclopedia.org/entry/Great_Chain_of_Being.
- Olson, Philip R. “Domesticating Deathcare: The Women of the U.S. Natural Deathcare Movement.” *Journal of Medical Humanities* 39, no. 2 (2018): 195-215.
- Olson, Philip R. “Flush and Bone: Funeralizing Alkaline Hydrolysis in the United States.” *Science, Technology, & Human Values* 39, no. 5 (2014): 666–93. <http://www.jstor.org/stable/43671194>.
- Order of the Good Death. “Founding Members.” <https://www.orderofthegooddeath.com/founding-members/>.
- Order of the Good Death. “Our Story.” <https://www.orderofthegooddeath.com/our-story/>.

Order of the Good Death. “Staff.” <https://www.orderofthegooddeath.com/staff/>.

Orenstein, Walker. “Minnesota paused ‘green burials’ because of a bitter fight over a cemetery in Carlton County. It has led to questions of religious freedom.” *MinnPost*, July 5, 2023. <https://www.minnpost.com/greater-minnesota/2023/07/minnesota-paused-green-burials-because-of-a-bitter-fight-over-a-cemetery-in-carlton-county-it-has-led-to-questions-of-religious-freedom/>.

Oregon Legislature. “HB 2574 — Natural Organic Reduction — Q & A.” 1-2.

Oregon Legislative Information. “HB 2574 Enrolled.” 2021 Regular Session. <https://olis.oregonlegislature.gov/liz/2021R1/Measures/Overview/HB2574>.

Oster, Lauren. “Could Water Cremation Become the New American Way of Death?” *Smithsonian Magazine*, July 27, 2022. <https://www.smithsonianmag.com/innovation/could-water-cremation-become-the-new-american-way-of-death-180980479/>.

Prothero, Stephen. *Purified by Fire: A History of Cremation in America*. Berkeley, Los Angeles: University of California Press, 2001.

Recompose. “About the Soil.” How to Consider Your Soil Options. <https://recompose.life/education/soil-options/>.

Recompose. “Katrina Spade.” <https://recompose.life/team/katrina-spade/>.

Recompose. “The Power of Microbes.” History. <https://recompose.life/who-we-are/#history>.

Recompose. “The Process.” Our Model. <https://recompose.life/our-model/#environmental-impact>.

Recompose. “Recompose Founded.” History. <https://recompose.life/who-we-are/#history>.

Recompose. “Signed Into Law.” History. <https://recompose.life/who-we-are/#history>.

Recompose. “Tanya Marsh, JD.” <https://recompose.life/team/tanya-marsh-jd/>.

Return Home. “Experience Return Home.” The Terramation Center. <https://returnhome.com/the-terramation-center/>.

Return Home. “Explore the Woodland.” About. <https://returnhome.com/the-woodland/>.

Return Home. “Legislation.” <https://returnhome.com/idratherbecompost/>.

Reuters Fact Check. “Fact Check-Alkaline Hydrolysis, or Liquid Cremation, Does Not Mean Human Remains are ‘Fed to the Living.’” *Reuters*, March 30, 2023.

<https://www.reuters.com/article/factcheck-dead-fed-living/fact-check-alkaline-hydrolysis-or-liquid-cremation-does-not-mean-human-remains-are-fed-to-the-living-idUSL1N3621X5>.

Rogers, Alix. "Unearthing the Origins of Quasi-Property Status." *UC Hastings Law Journal* 72, No 1. (291-336). <https://www.hastingslawjournal.org/unearthing-the-origins-of-quasi-property-status/>.

Riley, Diane, Pat O'Hare. "Harm Reduction: History, Definition, and Practice." in *Harm Reduction: National and International Perspectives*, edited by James A. Inciardi. Lana D. Harrison, 1-27. Thousand Oaks: Sage Publications, 2000.

South Coast Air Quality Management District. "Permits." <http://www.aqmd.gov/home/permits>.

South Coast Air Quality Management District. "Permit requirements and Application Submittal Procedures." <http://www.aqmd.gov/home/permits/permit-requirements-and-procedures>.

South Coast AQMD Press Release. "South Coast AQMD Issues Emergency Order for Crematoriums due to COVID-19." January 17, 2021.

Soylent. "From the Beginning." The Soylent Story. About. <https://soylent.com/pages/about-the-company>.

State of Washington Department of Ecology. "On-Farm Composting of Livestock Mortalities." Publication Summary Description. Ecology Publications & Forms, July 2005. <https://apps.ecology.wa.gov/publications/SummaryPages/0507034.html>.

The Theosophical Society in America, "Up in Smoke: Theosophy and the Revival of Cremation." <https://www.theosophical.org/publications/quest-magazine/1684-up-in-smoke-theosophy-and-the-revival-of-cremation>.

Thompson, Marion C. "EPITAPHS." *New York Folklore Quarterly* 4, no. 1 (Spring, 1948): 227. <http://login.ezproxy.lib.vt.edu/login?url=https://www.proquest.com/scholarly-journals/epitaphs/docview/1290840422/se-2>.

Timperley, Jocelyn. "Should We Give Up Flying for the Sake of the Climate?," *BBC News*, February 18, 2020. <https://www.bbc.com/future/article/20200218-climate-change-how-to-cut-your-carbon-emissions-when-flying>.

"Trends in Deathcare Preferences Among U.S. Consumers." *2021 NFDA Cremation & Burial Report*, (July 2021): 11.

Tripler, Ellen. *Dying Green: Natural Burial and Land Conservation*. Mill Valley, CA: Green Planet Films, 2011. 26 minutes. <http://login.ezproxy.lib.vt.edu/login?url=https://video.alexanderstreet.com/p/EqGDLmP2g>.

- Troyer, John. “Embalmed Vision.” *Mortality* 12, no. 1 (2007): 22-47.
- Turpin, Dawn. “The Problem with Human Composting.” *Ethics and Medics* 48, no. 5 (2023): 3-4.
- “Twenty-twenty-one Cremation and Burial Report Highlights.” *2021 NFDA Cremation & Burial Report*, (July 2021): 2.
- The United Nations. “Sustainability.” Academic Impact. <https://www.un.org/en/academic-impact/sustainability>.
- United States Department of Agriculture. “Livestock Mortality Composting Protocol.” Composting Livestock 2017, August 15, 2017.
- United States Department of Energy. “Electric Vehicle (EV) and Fuel Cell Electric Vehicle (FCEV) Tax Credit.” Laws & Incentives. Alternative Fuels Data Center. Office of Energy Efficiency and Renewable Energy. Last modified August 16, 2022, <https://afdc.energy.gov/laws/409>.
- United States Department of Energy. “Homeowner’s Guide to Federal Tax Credit for Solar Photovoltaics.” Solar Energy Technologies Office. Office of Energy Efficiency and Renewable Energy. Last modified March 2023, <https://www.energy.gov/eere/solar/homeowners-guide-federal-tax-credit-solar-photovoltaics>.
- United States Environmental Protection Agency. Arsenic Occurrence in Public Drinking Water Supplies.” EPA-815-R-00-023, December 2000.
- United States Environmental Protection Agency. “Economic Incentives.” Last modified August 24, 2023, <https://www.epa.gov/environmental-economics/economic-incentives>.
- United States Environmental Protection Agency. “Safe Drinking Water Act (SWDA).” Last modified March 30, 2023. <https://www.epa.gov/sdwa>.
- United States Environmental Protection Agency. “Drinking Water Regulations.” Drinking Water Requirements for States and Public Water Systems. Last modified September 20, 2022. <https://www.epa.gov/dwreginfo/drinking-water-regulations>.
- United States Internal Revenue Service. “Credits for New Clean Vehicles Purchased in 2023 or After.” Last modified June 22, 2023. <https://www.irs.gov/credits-deductions/credits-for-new-clean-vehicles-purchased-in-2023-or-after>.
- University of Tennessee Knoxville. “Research.” Forensic Anthropology Center. <https://fac.utk.edu/>.

“U.S. Cremation and Burial Trends.” *2022 NFDA Cremation & Burial Report*, (July 2022): 7-10.

