

Knowing "Necro-Waste": A Reply to Hird
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I thank Myra Hird and Zsuzsa Gille for their lively discussion of Hird's article, "Knowing Waste: Towards an Inhuman Epistemology." Gille is right that "[s]uch debates can only be good for waste studies and for scholars interested in developing nuanced understandings of materiality" (2013, 1). Indeed, I find this insightful exchange illuminating with respect to a particular area of material and technological culture that waste studies scholarship seldom travels, namely, the study of human remains. In my response to Hird, I propose a waste-directed approach to understanding the norms and practices governing the disposal of human corpses. I am guided by two questions. First, in what ways can Hird's contribution to waste studies shed light on the study of human remains? Second, what insights can the study of corpse disposal provide to waste studies in general, and to the ideas put forward in "Knowing Waste" in particular?

Let me begin by appealing to Hird's interest in knowing waste as "a matter of national [Canadian] identity." Hird broadens out from this more localized starting point to focus on "how we know waste, particularly in the global north" (2012, 454). Extending waste studies to the topic of corpse disposal highlights a unique basis for comparing Canadian and US waste-cultures, since Canada and the US are the *only* two countries in the world in which modern arterial embalming became a common funerary practice after the Civil War. Given this historical and technological context, needing to know about corpse disposal is at least as much a matter of national identity for Canadian and US citizens as is needing to know about waste in general — and for many of the same environmental, political, and epistemological reasons that Hird examines in her essay.¹

To some it will seem improper to think of dead human bodies as waste. Humans have consistently reserved for the remains of their dead a kind of dignity usually not conferred upon other kinds of objects.² The human corpse, writes Feinberg, is "a precious natural symbol of humanity," which is why "[f]ew people subject dead human bodies to harsh treatment out of personal taste . . ." (1985, 31). The recent outcry against the burial of Tamerlan Tsarnaev in Cambridge, MA only underscores the default dignity that we ascribe to human remains — a default that, according to Sophocles' *Antigone*, not even crimes against the state could undermine.³ The US Environmental Protection Agency

¹ That is *not* to say that citizens of the US and Canada have a greater need to know about corpse disposal than citizens of other countries. Funerary practices vary widely across the globe, and as Hird (following Code) points out, "feminist epistemology has thoroughly argued that the identity, social location and context of the knower make a difference in what is known, and what can be known" (2012, 458).

² There are some exceptions. For example, the US Flag Code states, "The flag, when it is in such condition that it is no longer a fitting emblem for display, should be destroyed in a dignified way, preferably by burning" (Title 4, Chapter 1, Section 8k). See <http://www.law.cornell.edu/uscode/text/4/8>. Last accessed June 6, 2013, 10:24am (EST). Similar duties or customs also apply to sacred texts (Torah scrolls, Qurans, Bibles, etc.) and to blessed or otherwise sacred objects. Consider also Hird's note about various cultural attitudes toward the treatment of placentas (2012, 454: fn 2).

³ For a comparison of the politics surrounding Tsarnaev's burial and the politics of burial in ancient Greece, see Daniel Mendelsohn's "Unburied: Tamerlan Tsarnaev and the Lessons of Greek Tragedy" at

does not label or regulate human bodies as "solid waste" — a policy that has practical implications for the regulation of crematories. In word and deed, some crematory operators even extend the anti-waste conception of the body to the prostheses and implants that survive incineration by burying these items in cemeteries. "These pieces of metal were once part of a living person," states one Philadelphia crematory operator. "We don't throw them away like they were garbage" (Harris 2007, 63).⁴

Nevertheless, as Hird notes, "[w]aste is an inherently ambiguous linguistic signifier: anything and everything can become waste, and things can simultaneously be and not be waste, depending on the perceiver" (2012, 454). Thus, even though there are symbolic, moral, and legal reasons not to *reduce* the human corpse to "waste," thinking and acting under a waste-directed conception of the corpse might not always be inappropriate. For even if we ought to respect dead human bodies as symbols of humanity, we can, as Feinberg points out, "respect them too much . . . at the expense of the very values they symbolize . . ." (1985, 31). What might we learn about our world and about ourselves by viewing human remains as waste, and by viewing cemeteries, in Harris's provocative terms, "as *landfills* for the materials that infuse and encase [the dead]" (2007, 38 [my emphasis])? Furthermore, what do we learn about our personal and social values through reflecting upon our responses to the very *idea* of viewing our mortal remains as waste?

As Faust reminds us in *This Republic of Suffering*, "[i]t is work to deal with the dead . . . to remove them in the literal sense of disposing of their bodies, and it is also work to remove them in a more figurative sense" (2008, xiv). Affiliating the study of human remains with waste studies offers one way to make clear that, just like waste, corpses too "may be analyzed in terms of the politics and economics of consumption; intergovernmental and industry-government relations; urban-rural divides; health; labour relations; gender and waste economies; science-public relations; risk; governance and so on" (Hird 2012, 454). A waste-directed approach to the study of human remains draws attention to the complex network of human actors (including funeral professionals, lawmakers and lobbyists, government agencies, marketing teams, religious leaders, funeral consumers, scientists, engineers, etc.) who facilitate and regulate the death-care industry, and whose various expertises or "modes of knowing" (Gille 2013, 2) both cooperate and compete with one another to know the dead. Hird's essay further prompts us to recognize that *inhuman* actors, too, play an integral role in "un/knowning" human remains—or what we might call necro-waste. (I will return to Hird's interest in these inhuman actors at the end of this response.)

One warrant for adopting a waste-directed approach to the study of human remains issues from increasing concerns about the negative environmental impacts of the two dominant forms of corpse disposal in Canada and the US: earth burial of embalmed bodies, and cremation. Beneath untold acres of chemically manicured cemetery land, we in the US deposit annually over 30 million board feet of hardwood; over 100,000 tons of steel,

<http://www.newyorker.com/online/blogs/books/2013/05/unburied-tamerlan-tsarvaev-and-the-lessons-of-greek-tragedy.html>. Last accessed June 6, 2013, 11:30am (EST).

⁴ Harris here quotes Bill Sucharski, who owns and operates Philadelphia Crematories Incorporated.

copper, and bronze; 1.6 million tons of reinforced concrete; and over 800,000 gallons of embalming fluid.⁵ Despite efforts to contain embalmed corpses in all this wood, metal, and concrete, an inhuman "exuberance" works to release formaldehyde and other embalming chemicals (including arsenic, a once-popular embalming agent that was outlawed in 1910) into the soil and groundwater around cemeteries. One notable difference between the containment measures utilized in landfills and those deployed in cemeteries is that, in the case of landfills, containment aims to protect the surrounding environment from waste, while in the case of the cemeteries, containment aims to protect the corpse from the ravages of the surrounding environment. But even though this difference in the direction of containment could work to confirm an anti-waste conception of the corpse itself, many consumerist and environmentalist critics insist that cemeteries and burial containers are an unnecessary "waste" of land, materials, and funeral consumers' money.

Over the last one hundred years, cremation has steadily risen in popularity in Canada and the US as an alternative to traditional earth burial. Today, Canada's cremation rate approaches 70%, compared with a US rate of around 40%.⁶ But concerns about fossil fuel consumption, greenhouse gas emissions, and vaporized mercury emissions (from volatilized dental amalgam) have generated interest in alternative technologies for managing necro-waste in more eco-friendly ways. Today, eight US states have legalized a new form of disposition called alkaline hydrolysis (a.k.a. "Resomation," "Aquamation," or "Bio-Cremation"). This process uses water and strong alkali to dissolve tissues, yielding an effluent that can be disposed of through municipal sewer systems — or which could be used as fertilizer—and brittle bone matter that can be dried, crushed, and returned to the decedent's family.⁷ In addition, the Swedish company, Promessa Organic, is in the process of developing "Promession" technology, whereby human remains are freeze-dried and shattered prior to burial or composting. There is also growing interest in "reef burial," which involves incorporating cremated remains into concrete "reef balls," which are strategically sunk in ocean waters to encourage the regrowth of devastated underwater ecosystems (Harris 2007, 87-102). To many people, the idea of repurposing or recycling human remains in these ways might seem crassly utilitarian, or even ghoulish — a response that underscores "how complicated the relationship between material and symbolic meanings can be" (Foote and Mazzolini 2012, 5).

A waste-directed approach to human remains encourages us to think beyond the mere *disposal* of necro-waste, and to consider also the cultures of production and consumption that yield this waste, and which produce the contexts in which specific disposition

⁵ See the Funeral Consumers Alliance website at <http://www.funerals.org/frequently-asked-questions/68-greenburial> and <http://www.funerals.org/newsandblogsmenu/blogdailydirge/1969-going-green-when-its-your-time-to-go>. Last accessed on June 17, 2013, 11:30am (EST).

⁶ Rates vary significantly from province to province and from state to state. See <http://www.cremationinfo.com/cremationinfo/PDF/WebCanCremFigures.pdf> and <http://nfda.org/consumer-resources-cremation/78-us-cremation-statistics.html>. Last accessed June 17, 2013, 11:45am (EST).

⁷ See <http://www.bioresponsefuneral.com>, <http://www.resomation.com>, and <http://biocreminationinfo.com>. Last accessed June 17, 2013, 12:00pm (EST).

practices occur. For example, how might the study of necro-waste cross-fertilize with scholars and activists concerned with overpopulation—not only with respect to “the consumption patters of a huge and growing human population,” but also in relation to re-production patterns that continue to drive upward “the sheer tonnage of human flesh on Earth . . .” (Cafaro and Crist 2012, 4-5)? Does the burgeoning “green” or “natural” burial movement in the US, Canada, and the UK deflect attention away from concerns about the (over)production of human biomass on the planet? Similarly, how might the practice of reef burial work to relocate and redefine the problems of waste and necro-waste by shifting attention toward funerary practices and away from the systems of production, consumption, and disposal that led to the deterioration of coral reefs in the first place? Responding to these questions demands that we interrogate necro-waste as a part of the broader economic, political, industrial, and cultural trajectories that we currently inhabit.

Clearly, there is much that the study of human remains can learn from waste studies scholarship. But how might the study of necro-waste in turn contribute to waste studies in general, and to Hird’s “Knowing Waste” in particular? Obviously, necro-waste provides waste studies scholars with new *materials*: most notably human corpses, but also a complex network of individuals and organizations who work to remove, reduce, or preserve our dead. But if, as Hird claims, “we know our selves through waste” (2012, 456), then what do our funerary and disposition practices tell us about our selves? Necro-waste challenges us to retool waste studies frameworks in order to accommodate a form of waste that is more than simply *of* the self, but the material self (or former self) in itself. In addition, necro-waste invites us to reexamine patters of human re-production, viewing them not only as life production, but also as waste production. From this point of view, necro-waste may occupy a position of unrivaled epistemological privilege “for understanding what individuals and communities are all about” (Spelman 2011, 234).⁸

I will conclude by offering some thoughts on Hird’s fascinating discussion of landfills as sites for human-bacteria interactions. While I am sympathetic to Hird’s insistence upon the importance of “conceptualizing waste as a problem of inhuman knowing” (2013, 465), necro-waste prompts us to question the “othering” of bacteria. Bacteria live not only *around* us, but also *with-in* us. The human body itself is a site for human-bacteria interactions. In fact, the number of bacterial cells in our intestines alone (“gut flora”) “exceeds by 10-fold the total ensemble of human cells” (Sears 2005, 247). In one sense, we are more bacterial than human. Moreover, genetic research has suggested that we have even “acquired [some] genes from our resident flora,” giving rise to “the hypothesis that human development is both hardwired in our genes and derived from our interactions with microbes” (Sears 2005, 247). The bacteria with-in us serve a number of useful functions, and the body itself enacts measures to regulate and contain this bacterial population. Yet these same bacteria *always* overcome the body’s efforts at containment — if not in the course of life, then inevitably in death.

Like landfills, cemeteries too are specific sites for human-bacteria interactions; but in cemeteries the meeting of humans and bacteria is even more intimate. Modern mortuary

⁸ Quoted by Hird (2012, 456).

science has generated technological interventions designed, in part, to impair this intimacy by reducing the number of bacteria present in freshly dead bodies. But growing numbers of natural burial advocates adopt a more sanguine attitude toward the decomposition of human remains (through the work of bacteria and other organisms), promoting burial practices that literally place human remains within the food chain (Plumwood 2008). Evolving attitudes and ideologies regarding the disposal of human remains reveals that there are many ways of knowing necro-waste, and that each implicates "geo-bacterial relations" (Hird 2013, 464) in a different way.

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