

Introduction: Mortality in *Design*

Connor Graham, Wally Smith,
Wendy Moncur, Elise van den Hoven

Introduction: Digital Design for Mortals

*Precisely what is unsettling about modern technological construction is that, instead of holding together earth and sky, mortals and divinities, it penetrates the earth to extract resources, pushes beyond the sky with rockets and satellites, attempts to suppress mortality with medicine and drugs, and precisely in this attempt to control the body, rejects the art of dying, and thereby and in the very process the remembering of the divinities that is the most intimate part of human suffering.*¹

More than ten years old now, Carl Mitcham's reflection on the performance of vernacular architecture (the building of his own house, in fact), is a powerful statement about the tendency of modern technology to suppress human mortality and with it the expression of the human spirit.² His words can be read as a direct reference to the much-reported death denial of the modern era, particularly in developed countries.³ For example, Tony Walter, a sociologist specializing in death studies, has described how modern death is medicalized and private.⁴ Mike Kearl, another sociologist and death studies scholar, first in 1989 and then again in 2010, notes how the "cultural tendency to rely on others to define and to organize one's fate" has resulted in a rejection of death in a society that rolls on, despite the demise of individuals.⁵ Kearl expresses the overall sentiment thus: "Late modernity has banished the dead from everyday life."⁶

Whether through "rockets and satellites" or medical technologies, we recognize the force of this line of thinking—that in technology, life is celebrated with aspirations for immortality while death, aging, and human mortality are refused and forgotten. Yet, in this special issue, we consider a contrasting possibility that technologies can be conceived and designed to somehow confront and deal with human mortality. Although examples could doubtlessly be drawn from any branch of technology, and from any of modernity's decades, our focus is on digital design of the present era.

A first clue to this possible counterview to Mitcham's position is that technologies themselves express a distinct sense of their own mortality. New gadgets, machines, constructions, and infrastructure all inevitably fade and abrade, becoming obsolete in ever-turning cycles of innovation and production, yielding relics

1 Carl Mitcham, "Thinking the Re-Vernacular Building," *Design Issues* 21, no. 1 (Winter 2005): 34.

2 Ibid.

3 Michael C. Kearl, *Endings: A Sociology of Death and Dying* (New York: Oxford University Press, 1989); Tony Walter, *The Revival of Death* (London: Routledge, 1994).

4 Walter, *The Revival of Death*, 48, 64.

5 Kearl, *Endings*, 46.

6 Michael C. Kearl, "The Proliferation of Postselves in American Civic and Popular Cultures," *Mortality: Promoting the Interdisciplinary Study of Death and Dying* 15, no. 1 (2010): 47–63.

in need of loving commemoration. For example, modernist architecture of the twentieth century came inscribed with an overt denial of history; and yet today, many of its buildings are themselves now faded and dated, their concrete crumbling and in need of repair, their once monumental display of newness itself now consigned to the heritage inventory.⁷

What, then, of the digital, described as “all that which can be ultimately reduced to binary code, but which produces a further proliferation of particularity and difference”?⁸ What of the “stuff” of newness today that brings its own kind of promises for a never-ending modernity? A cursory look at everyday digital technologies, such as social media and games, suggests that they, too, like the technologies described by Mitcham, evoke a celebration of the moment, the “real instant,” at the expense of deeper reflections on mortality.⁹ While postmodernity, which has accompanied the rise of the computer, might recognize “other aspects of our humanness, which lie beyond the empirical framework of naturalistic materialism,”¹⁰ digital technologies often seem to have continued to subdue human mortality along with the advances in medicine and science. And perhaps the digital goes even further, by embodying a sense of immortality in its very essence. A technology built around bits that are either 1 or 0 but nothing in between promises a form of recording that cannot fade or decay, as its analogue forbearers did. However, experience again shows how this promise is short-lived, and the digital suffers its own kind of mortal fragility in the form of bit-rot and planned obsolescence, eaten away by ceaseless cycles of standards updates and the imperative for production driven by neo-liberal capitalism.

In other words, digital artifacts show clear signs of being no more intrinsically permanent or immortal than other forms of technology. This brings us to the aim of this special issue: to explore expressions of mortality in the design of digital technologies. For us, the notion of *mortality* in design means to somehow confront and express the impermanence of human existence underscored by the inevitability of death. In principle, this perspective is distinct from designs of digital commemoration which instead offer another kind of immortality—a celebration of life despite death. In practice, however, designs for mortality are often juxtaposed with, and understood in relation to, various kinds of immortality. For instance, although Siu’s *Invisible Urn* acknowledges the fragility of the human, it also assumes the persistence and immortality of government and certain aspects of human society.¹¹ Human officials are posited as continuing to manage burial grounds where urns are placed while relatives’ commemorative practices are presented as being subject to changing priorities and migration. Thus, even in *physical* artifacts that recognize human mortality, certain immortalities are expressed. Nevertheless, despite its clear mutuality with immortality, we believe that the

7 Hannah Levi, “Paradoxes in the Conservation of Modernism,” in *Back from Utopia: The Challenge of the Modern Movement*, ed. Hubert-Jan Henket and Hilde H. Henket (Rotterdam: 010 Publishers, 2002), 350–59.

8 Heather A. Horst and Daniel Miller, *Digital Anthropology* (London: Berg, 2012), 3.

9 Paul Virilio, *Open Sky* (London: Verso, 1997), 18.

10 Stuart Walker, “Design and Spirituality: Material Culture for a Wisdom Economy,” *Design Issues* 29, no. 3 (Summer 2013): 92.

11 Kin Wai Michael Siu, “Culture and Design: A New Burial Concept in a Densely Populated Metropolitan Area,” *Design Issues* 21, no. 2 (Spring 2005): 79–89.

notion of mortality provides a distinctive point of focus and motivation for design. And it is this potential that we set out to explore. The papers in this special issue present an interdisciplinary, multi-sited approach to understanding *Mortality in Design*: seven papers spanning architecture, interaction design, philosophy, sociology, and science and technology studies (STS). Together, these papers concern a range of physical, hybrid, and digital designs that express particular relations between the living and the dead. They include discussions of bespoke designs for artifacts placed in the home or worn on the body, prototypical digital designs for augmenting rural space, and speculative designs for future artifacts. Although all of the papers in some way deal with deceased humans or animals, they vary in terms of the extent to which the dead are kept in their place.

Our aim in the remainder of this introduction to the special issue is to draw attention to some significant issues emerging from the seven papers. In “Themes and Papers,” we identify five broad themes that are mobilized: materializing, translating, preserving, remembering, and continuing. We then pick up some larger emerging issues in the sections “Mortality or Immortality in Design?” and “The Design Imaginary”—the first considering in more detail the relationship between mortality and immortality and the second looking at how work in this field is motivated by particular visions, dreams, and ideologies.

Themes and Papers

The papers of this special issue express or explore five broad themes of mortality in design.

Materializing concerns how design might address and respond to the physical bodies of mortals. Mike Michael’s paper proposes that certain designs potentially are able to serve as a medium through which to “open up” the meanings of particular events, including death and, more broadly, ideas about human mortality. He treats critically two physical technology designs by James Auger and Jimmy Loizeau that center on disposal and that exemplify and challenge the particular character of relations between humans and non-humans—whether reciprocal, dependent, or exploitative. Michael also shows that these relations rest on a particular residual ontology that sees humans as superior to animals. Using the designs to speculate about possibilities, he shows how human–non-human relations can be extended, inverted, and equalized. He also shows how they can be re-contextualized by thinking through the vitality and materiality of dead bodies, as well as their embeddedness in ecosystems, infrastructures, and socio-economic regimes. In this way, “human” mortality is shown to be shared by all animals. This perspective

extends to the digital. How are the digital remains of the human dead “special”? How are they contextualized and given meaning by distinct systems and regimes?

Translating concerns the visions of mortality and immortality narratives that are represented and embraced through design. Karla Rothstein’s paper straddles this next theme of translating with the previous theme of materializing. She challenges traditional practices of bodily disposal by considering practical problems for cities and urban planners: making room for the dead. Her paper carefully considers different methods of disposal and reflects on the position of the dead in relation to the living. Her physical design proposals illuminate (quite literally) particular futures and are illustrative of the different roles and relations of the dead throughout history: from protecting community lands in the eastern Mediterranean during the Mesolithic period, to legitimizing the boundaries of space for the living in modern cities like Paris, to symbolizing the mass, if impersonal, loss of the young through the horrors of war.¹² Rothstein illustrates the broader contexts in which the dead are situated: as part of a global transformation toward cities; as embedded in a planetary ecosystem; and as potentially a key part of a city-level energy infrastructure. In this way, she reimagines the dead as part of a larger set of planetary sociotechnical relations beyond the individual, the family, and even the human. She demonstrates through a design proposal how the dead can once again form part of the physical architecture of the city, rather than being spatially sequestered in cemeteries on the edges of populated territory. She provokes speculation concerning possible intersections with the digital in establishing the presence of the dead among the living in physical and digital spaces. Rothstein also shows that urban space can offer continuity with past disposal rituals while moving to more public, civic, expressive, inclusive, and less individualized approaches to memorializing the dead. How might a shift from individual and family-based memorialization to a more civic scale be achieved? In disposal, to what extent are the sacredness and certain vulnerabilities of the human body supposed, and the permanence of infrastructure assumed?

Preserving concerns the potential for artifacts to help us protect and extend our vulnerable mortalities. The paper by Gail Kenning and Cathy Treadaway explores how the progressive loss of a loved one through changing personhood brought on by illness can be ameliorated through the use of sensory textile objects in a family context. Specifically, they consider how family members confront the chronic illness of dementia through digitally enhanced material objects—specifically, fabric blankets that incorporate microcontrollers interfacing with digital sounds, music, and photographs. These artifacts allow for enhanced

12 Timothy Taylor, *The Buried Soul: How Humans Invented Death* (London: Fourth Estate, 2003); and Kearl, *Endings*, 45.

communication between family members through touch and are tailored to sustain and celebrate personhood. In this case, the vulnerability associated with mortality is keenly *felt*. The physical and digital aspects of the object support a present-focused relationality with the dementia sufferer while the person still lives, and a remembering of the person after death actually arrives. The possibilities of both the preservation and decay of the material and digital components of the artifact invite speculation. What are the consequences of the electrical and digital components breaking down or no longer being possible to maintain or power? To what extent is the ongoing “existence” of the deceased contingent on the answers to these questions?

Remembering concerns the potential for digital technologies to support the memory and revival of past lives. The two papers in this theme explore not so much the achievement of digital immortality, but rather the design of technologies that respond to more fragile mortalities. Will Odom, Daisuke Uriu, David Kirk, Richard Banks, and Ron Wakkary continue the exploration of the domestic space and family members’ relationships with their deceased through a discussion of two hybrid object designs. They consider how grieving and memorialization are literally placed in relation to the living through digital displays, media (in this case digital photographs), and input mechanisms. In the design deployed in the UK, the digital component allowed the bereaved to collaboratively contribute to supporting the memory of the deceased, placing digital images in “a broader temporal space that encompasses multiple lifespans.” In this way, the bereaved gained a measure of control over how the deceased individual was being remembered. This collaborative archival approach contrasted with the more reflective, ritualistic engagement created through the artifact’s deployment in Japan. In the latter case, control over the aspects of the deceased’s life that were on display shifted to the artifact. Yet, in both cases, the material quality of the artifact shaped the meaning of and interaction with the artifact: oak doors to evoke warmth and open interaction, and symbolically shaped picture frames to differentiate the dead from the living. Why and in what circumstances should the material “trump” the digital? To what extent should the digital dead be conveniently designed and configured by the living?

David Kirk, Abigail Durrant, Jim Kosem, and Stuart Reeves move memory of the deceased out of the home to a physical site of trauma in a rural location in Slovenia, where existing physical memorials reside. Their design, in contrast with Odom et al.’s, memorializes a collective and represents a layering of the digital over a physical *space* through a mobile, locative audio-guide. They describe how the audio presents spoken word testimony from a survivor and could be accessed in fragments from different parts

of the site. Considering memory as social and collective, they work through the implications for legacy and how it can be achieved. They show that design of remembering, as in the case of Odom et al.'s study, is a key concern. The digital nature of the memorial allows oral narrative to be incorporated from an absent survivor and allows individual, moving bodies to engage with it, through their mobile phone. This work shows how a public, rural space, enhanced with the digital, can mediate memories of an atrocity. It also leaves open the politics of how to decide which voice(s) engage in the design process. What is the tension between remembering and forgetting? To what extent should the dead be included as a persistent, encountered presence at a memorial site?

Continuing concerns how digital technologies might extend personhood and how their aesthetics and composition might represent human mortality. This theme thus takes us closest to aspirations for digital immortality. Ștefania Matei considers how the deceased can continue to exert moral influence through a distributed sense of collective agency involving digital infrastructure and the living. She argues that both the commemorators and the commemorated through the online donation site, *Much Loved - The Online Tribute Charity*, are incorporated into a set of relations marked as both moral and responsible in character. Her suggestion is that the socio-technical infrastructure of the website, including discrete interface components that make visible the deceased, the donors, and the financial infrastructure contribute to a moral presence in the world that espouses particular senses of value. The deceased are extended through time, as they persist, perpetuate, and reach out through socio-technical relations that can continue to shape action and are a moral presence on their behalf. To what extent are designs, designers, and donors moral agents in a configuration that incorporates the deceased? Under what conditions might the dead have any agency—moral or otherwise?

Jayne Wallace, James Thomas, Derek Anderson, and Patrick Olivier end the special issue by considering the temporal extension of the deceased through artifacts worn on the body. Like Kenning and Treadaway, they examine how touch can support an explicitly ongoing interaction with deceased loved ones. Digitally enhanced objects can support interaction with the living as they approach death and can support commemorative and honoring rituals in particular spaces attached to individuals or collectives. These authors extend this focus to consider mobility and the personal, bodily proximity of physical lockets and thus articulate how such artifacts enable the dead to have a continuing, changing, physical, and social relationship with living individuals. They show how such lockets can be enhanced to support a reimagining of relationships between the dead and the living by including mediations of their bodies in digital photographs. How important are the

material and digital aspects of the design for giving the deceased an ongoing, meaningful presence? What possibilities do the intuitive malleability and counter-intuitive perishability of the digital offer up for the ongoing presence of the dead?

Mortality or Immortality in Design?

*At its core, a civilization is a collection of life-extension technologies: agriculture to ensure food in steady supply, clothing to stave off cold, architecture to provide shelter and safety, better weapons for hunting and defense, medicine to combat injury and disease.*¹³

Having overviewed the papers of the special issue, we now consider some broad questions around the relationship between mortality and immortality in design. We turn to the writings of Stephen Cave, a philosopher tackling mortality from the perspective of “big history” in the popular text, *Immortality: The Quest to Live Forever and How It Drives Civilization*. Cave argues for four “immortality narratives” that are descriptive of all stories across time and cultures concerning “living on” after death. These narratives are staying alive, resurrection, soul, and legacy.¹⁴ Cave’s argument is that attempts to reach immortality have produced what we call civilization. Although Cave clearly addresses immortality, the same four narratives can serve to explore issues of mortality. We further suggest that Cave’s narratives are informative about and provide a loose framework for the momentum behind some aspects and motivations of digital design—in how “users” are conceived and even in the aesthetics and functions of the design itself.¹⁵

Across the papers is a preoccupation with the body. But in contrast to the narratives of Cave, we see a profound acknowledgment and admission of its physical decay, even if it might be transformed materially in particular ways in the short term: through its translation into energy in the case of the papers of Michael and Rothstein and into forms that hybridize the material and the digital in other papers. This is not resurrection in any ritualized or non-rational sense. The materiality of this persistence, in terms of Cave’s four narratives, might represent his fourth narrative of a legacy; with the paper by Matei engaging most literally with this particular narrative. The papers also show that the deceased can live on as a less material presence through digitally enhanced artifacts, reminiscent of Cave’s third narrative of soul. This particular narrative could do more to acknowledge the role of material things in mediating the dead. But what also emerges through the papers is a non-binary notion of human mortality and immortality. This conception of mortality is presented as structured more by the material world and less directly by the economic realities of global capitalism.

13 Stephen Cave, *Immortality: The Quest to Live Forever and How It Drives Civilization* (London: Biteback Publishing, 2012), 37.

14 Ibid.

15 Richard H. R. Harper, *Texture: Human Expression in the Age of Communications Overload* (Cambridge, MA: MIT Press, 2010).

The papers of Matei and Wallace, taken with Michael's observations about relations, provide some important insights into agency and time, concepts highly relevant to Cave's narratives, and some tentative insights into how the mortal human is conceptualized. Extending Cave's narratives, the papers show how the agency of the deceased is highly dependent on the technology associated with them—whether a screen or a wearable artifact—and with how that technology frames and connects them with the living, whether pervasively in physical space or by being worn on the body. The digital technologies presented in the special issue afford a vision not only of lingering intentionality, but also of ongoing effect—for example, by being remembered in particular ways. And the issue shows how the digital—given its profound association with kinship ties, the packaged product of convenience, visual consumption, and extension through time—affords and shapes the dead's engagement with the living in ongoing action and interaction through the senses, particularly vision, and proprioception: screens, space, and artifacts.¹⁶ The variations in the digital's role, in the design and the interaction and sensual engagement that it affords, help shape relations between the living and the dead as reciprocal or dependent, loose, or even potentially exploitative.

Given these observations concerning mortality and the exploration of visions of human mortality, our first broad question concerns what these papers reveal about the design process and the human designer responding to the ephemerality, shift, and vulnerability of the mortal human? The papers certainly offer some creative responses on how to remediate and position the dead ontologically, spatially, socially, and even environmentally and, in the case of the first two papers, how they challenge existing mortuary rituals and norms of the sacred in the process. They illustrate speculative, activist, and participatory approaches to design. They also show how both digital media (e.g., recordings and photographs) and physical media (e.g., blankets and locket) give the dead a continuing presence; and that hybridization of the digital and physical imbues this presence with new meanings through digitization, fusing two distinct visions and vulnerabilities in the process.

More specific questions about the mortality of the human and the human designer receive less attention, although we certainly gain insights. Even if design is capturing "rituals cast in space," how does it express intention, or make visible and articulate vulnerability?¹⁷ Matei takes a particular position on collective agency, and the papers of Kirk et al., Odom et al., and Wallace et al. all treat *mediations* or *remediations* of identity. Kenning and Treadaway expand the treatment of mortality to deliberately consider different aspects of human vulnerability—namely, personhood. They consider how digital design might respond to it, thus producing new vulnerabilities in the process. Along with Michael

16 Brian Massumi, *Parable for the Virtual: Movement, Affect, Sensation* (Durham, NC: Duke University Press, 2002), 58.

17 Frank E. Brown, *Roman Architecture* (New York: George Braziller, 1961); Dominik Bastianello, email message to Connor Graham, March 13, 2014.

and Rothstein, Kenning and Treadaway also shift attention to the kinds of assumptions that are made about persisting human–human relations and human–technology relations and the vulnerability of these relationships in the designs presented in the other papers. Inspired by Latour,¹⁸ these observations cause us to consider the degree to which designers’ agency is present at all in (digital) design for mortality, subdued as it is by spatial constraints, digital infrastructure (e.g., wireless networks), global capitalism, and preconceived notions of the function of furniture, tourist spots, and jewelry, as well as by the durable (and often rightful) norms related to memory of the deceased and the sentiment of different actors: the bereaved, the commemorating, and those merely interested.

The Design Imaginary

The second broad question we see as emerging from the special issue focuses on how designers might conceive of mortality both in their design work and in relation to various others, including the users of technology and the ones represented through it. This question goes well beyond the important practice of taking “the user” seriously in “a fragile encounter” between “other and self” or in the levels of “openness and closure” in this encounter; it engages with the very nature of human mortality and the configuration of the designer, the designed-for, and the design.¹⁹

In the designs presented in this issue, the digital has been part of a means of securing ongoing legacy and presence for the dead, even if some caveats are offered. The display designs presented in the paper of Will Odom and his colleagues place the dead carefully in the home so that they don’t become too invasive, while the audio guide design in the paper of David Kirk and his colleagues is careful to place the atrocity in the past. Imagining the obsolescence that these designs might suffer by being put away or forgotten is not difficult, partly because of the designers’ sensitive, careful efforts not to disrupt existing space and to engage the moving body. In these cases, the designers’ sensitivity, their careful engagement with the living, and their acute awareness of the sentiment attached to human mortality mean that the dead are kept at arm’s length. Thus, these designs provoke the question of whether people—designers and users alike—really want to engage with the dead. In sharp contrast, the designs for the treatment of dead bodies reported by Michael and Rothstein are less cautious about existing norms and of breaching existing modes of behavior, and are instead more exploratory and confrontational. And Ștefania Matei’s analysis more deliberately shows that the digital dead can “reach into” the living world, even if only through a network. Following from her analysis, and also through the designs discussed in the papers of Gail Kenning and Cathy Treadaway and Jayne Wallace and her colleagues, we can observe the vision of a more

18 Bruno Latour, “Agency at the Time of the Anthropocene,” *New Literary History* 45, no. 1 (2014): 1–18.

19 Mark Steen, “Human-Centered Design as a Fragile Encounter,” *Design Issues* 28, no. 1 (Winter 2012): 74.

unruly, less polite human dead. In these articles, the digital visually and tangibly mediates distinctly different images of the dead and their bearing on the present and the responsibilities of the living. How the designs of Kenning and Treadaway and Wallace and colleagues engage touch, as well as sight and proprioception, is also highly significant in contrast to the more visually oriented designs of Odom et al. and the more conventional web service that Matei reports on. The paper of Wallace et al., in closing the collection, illustrates how the digital, despite its potential role in an ongoing relationship between the living and the dead, can be as fragile and as subject to destruction and deterioration as the material.

Taking a step back, what becomes visible across all of the papers is a picture of designers' dreams, ideologies, and visions around mortality, and how they come into play around particular digitized spaces and artifacts. We suggest that these might be considered as forming a particular *design imaginary*. Just as Barendregt argued that McLuhan's Global Village drove post-war technological progress, including the Internet in the United States, here we see the influence of a design-specific imaginary relating to humans and their mortality that is brought into being through the imaginative creation and deliberate construction of contemporary designed artifacts and spaces.²⁰ In this new design imaginary, the dead are acknowledged as enduring, but critically also as finite and secondary to the living, even sometimes as resources to support ongoing life. This contrasts sharply with times and cultures when ancestors have been deemed as important as the living, and the continuation of such ideas in the present day. And with this, we also see the technology of digitization transforming, or at least fortifying, the human mortal body into a more persistent and configurable social presence. This is not quite the collective, established, institutional, future-oriented sociotechnical imaginary of Jasonoff and Kim which posits beliefs regarding the way the social world is or could be—deeply embroiled with and achieved through technology.²¹ Here, we see something both more speculative and focused on designer intentions.

As long ago as 1988, Don Norman coined the term “designer’s conceptual model” to capture this similar speculative sense of designer and design intention.²² But the design imaginary evident across the papers goes well beyond this relatively contained idea. Like sociotechnical imaginaries, a design imaginary encapsulates hopes of progress, such as reconceiving human mortality in society, as well as fears of possible harm, such as human mortality’s threat to ongoing existence. This sense of the design imaginary evokes and draws on Michael M. J. Fischer’s analysis of the Web as

20 Richard Barbook, *Imaginary Futures: From Thinking Machines to the Global Village* (London: Pluto, 1996); Bart Barendregt, “Diverse Digital Worlds,” in *Digital Anthropology*, eds. Heather A. Horst and Daniel Miller (London: Bloomsbury, 2012), 203–24.

21 Sheila Jasonoff and Sang-Hyun Kim, eds. *Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power* (Chicago, IL: University of Chicago Press., 2015).

22 Don Norman, *The Design of Everyday Things* (New York: Basic Books, 2013), 13.

“a cultural, ideological, even ritual, space (con)fusion, at least in America, between a ‘cowboy-hacker-individualist-anarchist-libertarian’ ethic and a series of market and political mechanisms for restructuring labor in new forms of manufacturing and services.”²³ The term also, like Fischer’s work, acknowledges such technosocial design as historically embedded and thus associated with certain visions of a time shaped through technology: from “utopian and colonizing talk of the electronic frontier” to “gradual coevolution and integration of the Internet with other institutional worlds.”²⁴

In proposing this sense of a design imaginary around mortality, we are not suggesting a singular unifying vision across the papers. On the contrary, different and even competing notions of mortality are juxtaposed. Mortality is something to be debated (as in Michael), to be engaged with convivially (as in Kirk et al.), or to be understood and designed for (as in Wallace et al.). And with these views particular understandings of aesthetics analyzed by Koskinen as typical of “new social design” are folded into the design imaginary.²⁵ In this way, digitally enhanced artifacts and environments are pegged to other *human* forces—forces with which living individuals and small groups actually engage. However, we also contend that the very nature of the digital—even its aesthetic—is such that it is also often impermanent and liable to change in response to larger, more abstract, less visible forces than human action and intention, such as the market, Internet policy, and “the elusive workings of algorithms and protocols” over which we have no control.²⁶ Thus, the digital’s design imaginary is not only human but also circumscribed through a historical technological context.

And finally, the design imaginary emerging in this special issue confirms and elaborates a point raised earlier about the mortality of digital technology itself. The digital is rendered as transient as the flesh because it is constantly undergoing change. As the papers reveal, this transitory nature is further complicated when the digital becomes interwoven with the material—whether through its layering with physical spaces and technologies (e.g., public displays) or through the material forms borrowed by digital spaces (e.g., architectural metaphors). Despite the past and contemporary imaginations of immortality associated with it through its inherent, possibly endless reproducibility, the digital also has an affordance for decay. Digital spaces might be distinct in the imaginations associated with them and the subjective experiences they offer and generate. But they are still subject to aging and decay through time, environment, and their own distinct exposures, which creates a very distinct sense of mortality.

23 Michael M. J. Fischer, “Worlding Cyberspace: Towards an Ethnography in Time, Space and Theory,” in *Critical Anthropology Now*, Marcus George, ed. (Santa Fe, NM: School for American Research, 1999), 261–62.

24 Ibid., 246.

25 Ilpo Koskinen, “Agnostic, Convivial, and Conceptual Aesthetics in New Social Design,” *Design Issues* 32, no. 3 (Summer 2016): 18–29.

26 Amanda Lagerkvist, “Existential Media: Toward a Theorization of Digital Thrownness,” *New Media & Society* 19, no. 1 (2017): 96–7.

Conclusion

This special issue centers on the “visions” related to human mortality and how they are rationalized and folded into design. The response to the challenge of this investigation is sought not from lawmakers, multinational corporations, and governments, but from designers and their design practices. Thus, we have focused on two questions: First, how do mortality and design, especially digital design, interrelate? And second, how does human mortality shape digital design, and vice versa? Digital design provokes a series of questions regarding the human—the designer, the designed-for, and the designed-around—in relation to durability and vulnerability. Thus, we have considered the human’s representation in digital systems, environments, and artifacts by describing design processes, design actors, and the design imaginary.

As a corpus, these papers encourage us to reconsider Kittler’s observation about the dead’s relation to technologies such as the digital: “The realm of the dead is as extensive as the storage and transmission capabilities of a given culture. As Klaus Theweleit noted, media are always flight apparatuses into the great beyond. If gravestones stood as symbols at the beginning of culture itself, our media technology can retrieve all gods.... In our mediascape, immortals have come to exist again.”²⁷ The dead might well exist again through mediascapes, and digital might offer the possibility of immortality through a continuing spirit and legacy, increasingly propagated through a stubbornly enduring online presence of the deceased across different Internet media and services. The dead might be visible once again through the emergence of deceased celebrities in civic and popular culture via the magic of the digital.²⁸ And to return to Mitcham, extending life might even be made possible through these mediascapes—through the apparent reduction of human experience to the digital.²⁹ But such apparent immortalities are also mortalities: They are all subject to the material world of the living and to the durable imaginations associated with the digital and its apparently endless reproducibility and defiance of the passage of time. Perhaps the time has come to more deliberately design for such mortality—and for the design imaginary to recognize the range of human and digital vulnerabilities.

Acknowledgements

We kindly thank anonymous reviewers for their hard work, which made this special issue possible. This special issue was supported by funding and administrative assistance from the Centre for Liberal Arts and Social Sciences (CLASS), Nanyang Technological University (NTU), Singapore, and by administrative assistance from the Asia Research Institute at the National University of Singapore, Singapore. Special thanks is reserved for Natalie Pang for her work to secure funding support from CLASS, NTU.

27 Friedrich A. Kittler, “Introduction,” in *Gramophone, Film, Typewriter*, trans. Geoffrey Winthrop-Young and Michael Wutz (Stanford: Stanford University Press, 1999), 1–19.

28 Kearl, “The Proliferation of Postselves in American Civic and Popular Cultures”; Alexandra Sherlock, “Larger Than Life: Digital Resurrection and the Re-Enchantment of Society,” *The Information Society: An International Journal* 29, no. 3 (2013): 164–76.

29 Mitcham, “Thinking the Re-Vernacular Building.”