

Bytes the Dust: Normative Notions in Decommissioning Digital Doppelgängers

Andrew J. Barnhart, Giuseppe Commerci & Matthias Braun

To cite this article: Andrew J. Barnhart, Giuseppe Commerci & Matthias Braun (2025) Bytes the Dust: Normative Notions in Decommissioning Digital Doppelgängers, The American Journal of Bioethics, 25:2, 126-129, DOI: [10.1080/15265161.2024.2441708](https://doi.org/10.1080/15265161.2024.2441708)

To link to this article: <https://doi.org/10.1080/15265161.2024.2441708>



© 2025 The Author(s). Published with license by Taylor & Francis Group, LLC.



Published online: 29 Jan 2025.



Submit your article to this journal [↗](#)



Article views: 216



View related articles [↗](#)



View Crossmark data [↗](#)

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author(s).

FUNDING

The author(s) reported there is no funding associated with the work featured in this article.

ORCID

Dov Greenbaum  <http://orcid.org/0000-0003-4440-3090>

REFERENCES

- Bartholomew, M. 2024. A right to be left dead. *California Law Review* 112(5): 1591.
- Beaunoyer, E., and M. J. Guitton. 2021. Cyberthanatology: Death and beyond in the digital age. *Computers in Human Behavior* 122: 106849.
- Figueroa-Torres, M. 2024. Affection as a service: Ghostbots and the changing nature of mourning. *Computer Law & Security Review* 52: 105943.
- Forrest, K. B. 2023. The ethics and challenges of legal personhood for AI. *The Yale Law Journal* 133: 1175.
- Gäb, S. 2023. Should you upload your mind? *Think* 22(65): 33–37.
- Greenbaum, D. 2024. Reconceptualizing personhood in bioethics and law: A spectrum-based approach. *The American Journal of Bioethics* 24(1): 38–40.
- Hollanek, T., and K. Nowaczyk-Basińska. 2024. Griefbots, deadbots, postmortem avatars: On responsible applications of generative AI in the digital afterlife industry. *Philosophy & Technology* 37(2): 1–22.
- Hoskins, A., and H. Halstead. 2021. The new grey of memory: Andrew Hoskins in conversation with Huw Halstead. *Memory Studies* 14(3): 675–685.
- Iglesias, S., B. D. Earp, C. Voinea, S. P. Mann, A. Zahiu, N. S. Jecker, and J. Savulescu. 2025. Digital doppelgängers and lifespan extension: What matters? *The American Journal of Bioethics* 25 (2):95–110. doi: [10.1080/15265161.2024.2416133](https://doi.org/10.1080/15265161.2024.2416133).
- Lopez, A. B. 2016. Posthumous privacy, decedent intent, and post-mortem access to digital assets. *George Mason Law Review* 24: 183.
- Mitchell, M. 2024. Debates on the nature of artificial general intelligence. *Science* 383(6689): eado7069.
- Morse, T. 2024. Digital necromancy: Users' perceptions of digital afterlife and posthumous communication technologies. *Information, Communication & Society* 27(2): 240–256.
- Öhman, C., and L. Floridi. 2017. The political economy of death in the age of information: A critical approach to the digital afterlife industry. *Minds and Machines* 27: 639–662.
- Roberts, R. J. 2022. You're only mostly dead: Protecting your digital ghost from unauthorized resurrection. *Federal Communications Law Journal* 75: 273.
- Tang, K.-S., G. Cooper, and W. Nielsen. 2024. Philosophical, legal, ethical, and practical considerations in the emerging use of generative AI in academic journals: Guidelines for research in science education (RISE). *Research in Science Education* 54(5): 797–807.
- Vansweevelt, T., and L. Bubalo. 2019. Post-mortal protection of the right to reputation—A comparative view. *Journal of European Tort Law* 10(1): 1–26.

THE AMERICAN JOURNAL OF BIOETHICS
2025, VOL. 25, NO. 2, 126–129
<https://doi.org/10.1080/15265161.2024.2441708>



Taylor & Francis
Taylor & Francis Group

OPEN PEER COMMENTARIES

 OPEN ACCESS

 Check for updates

Bytes the Dust: Normative Notions in Decommissioning Digital Doppelgängers

Andrew J. Barnhart , Giuseppe Comerici  and Matthias Braun 

University of Bonn

INTRODUCTION

In recent debates on digital twins, much attention has been paid to understanding the interaction between individuals and their digital representations (Braun, 2021). Iglesias et al. (2025) shed new light on this

debate, extending the reflection on digital doppelgängers—digital twins that try to replicate the psychological dimension of an individual. They argue that such copies may serve as valuable means to achieve legacy and relational aims left unaddressed

CONTACT Andrew J. Barnhart  andrew.barnhart@uni-bonn.de  University of Bonn, Bonn, Germany.

© 2025 The Author(s). Published with license by Taylor & Francis Group, LLC.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

due to the person's death. Against this background, we discuss how far we may better understand the implied normative aspects by considering them in terms of the represented person's death. Specifically, we ask how we can and should, in normative terms, deal with a digital twin as a representation of a person after their death.

Here, we consider the decommissioning of such technology. We define decommissioning as the withdrawal, dismantling, or rendering the doppelgänger incapable of serving its original aims. We hypothesize that the way in which these digital doppelgängers ought to be decommissioned may depend upon whether they are viewed either as a proxy or as an extension of personhood. By proxy, we mean a stand-in for an individual by replicating their decisions and style without embodying their personal identity or subjective experience; something that makes decisions on your behalf but is not you (Braun and Krutzinna 2022). What is left behind is akin to an artifact owned by you. Whereas an extension of personhood can mean extending aspects of an individual's identity and relational presence beyond death by reflecting their values, projects, and relationships; something that is/was a part of yourself. What is left behind is akin to an "informational corpse" (Öhman and Floridi 2018).

Answering this decommissioning question is necessary not only to respect the intended aims of those for whom the digital doppelgängers were created, but also to potentially respect certain social norms surrounding obsequies. Viewing digital doppelgängers either as proxies or extensions of personhood implies respective normative notions. For instance, the pursuit of any decommissioning strategy will require necessary and sufficient standards of informed consent, which may be difficult to parse given that not all individuals will view their digital doppelgänger in the same manner. The decommissioning of digital doppelgängers is thus enriched by moral nuances influenced by the perceptions we may have of this technology.

DECOMMISSIONING STRATEGIES

Among the reasons that could lead to decommissioning are technical issues; for instance, bit rot may occur due to the physical deterioration of storage media or environmental factors affecting it. Excessive bit rot or physical failure could result in media decay, rendering digital doppelgängers unreliable (Corrado & Sandy 2017). Moreover, fulfilling the legacy purposes for which the digital doppelgänger was developed—such as posthumously completing the last part of an author's

novel—may also serve as rationale for decommissioning. Additionally, the surviving loved ones who may be interacting with the doppelgänger may no longer need it for grieving or other social relationship purposes, which then also raises questions about decommissioning. Similarly, should the surviving loved one also die, leaving behind the doppelgänger, then it would still require decommissioning.

Decommissioning digital doppelgängers can take two main forms: preservation or destruction. At first glance, there may be a preference for preserving a digital doppelgänger if it is viewed as an extension of personhood. Likewise, destruction could be seen as permissible if the doppelgänger is viewed as a proxy. However, such preferences and normative stances are not universally held, and it is not entirely clear which decommissioning strategy ought to be chosen.

Consider preservation: here, a first sub-strategy would be archiving. This entails creating and maintaining a repository for long-term storage and access to digital doppelgängers and data. Archiving (and preservation more generally) may be necessary given the rapid rate of technological change. The data, and doppelgängers themselves, may be inaccessible in just a few years time after they were created. Appropriately archiving provides a chance to maintain access to both the data and the doppelgänger. Archiving allows future generations to access prior iterations of digital doppelgängers. Should doppelgängers be viewed as proxies of a person's decisions, style, or behavior, then archiving would serve more as a historical function. However, if the doppelgängers are viewed as an extension of a person, then archival functions as storage of these informational corpses, ostensibly creating and functioning as a kind of virtual cemetery. There, surviving loved ones could come and pay a visit online, similar perhaps to visiting a social media profile of the departed (Sisto 2020). This may imply that greater standards of archival are necessary for these virtual cemeteries.

A second sub-strategy of preservation would be repurposing. This entails repurposing digital doppelgängers for new applications, contexts, or aims which may be distinct from the original purposes. Examples may include research and development, education, or artistic purposes. Repurposing a digital doppelgänger still, in some sense, requires decommissioning and preservation of the original instantiation. Repurposing could be ethically justified if the digital doppelgänger is viewed as a proxy of the individual, where the information can be divested from the original purposes and used for more applications. One could use the data to help further develop better doppelgängers,

Table 1. A table showing normative notions involved when considering digital doppelgänger decommissioning strategies in combination with proxy or personhood-extension perspectives.

	Decommissioning strategies		
	Preservation		Destruction (memorializing)
	Archival (standards)	Repurposing (means)	
Proxy	Lower minimal standards	Greater available means for repurposing	Less need for memorialization
Personhood-extension	Higher minimal standards	Fewer available means for repurposing	Greater need for memorialization

for example. On the other hand, repurposing a doppelgänger under a personhood-extension view may be ethically more problematic, as it may be seen as a violation of the wishes or identity of the deceased individual. Consider the writer example from Iglesias et al. (2025), where the doppelgänger finishes the last bits of the author's book. Repurposing that doppelgänger toward new literary works without the author's explicit consent and authorization could raise serious ethical concerns as it may be perceived as an inappropriate use and violation of the author's identity and legacy. For instance, suppose that the doppelgänger was altered in such a way that it could write explicit or adult content in the author's style (assuming the author never wrote such material). While it is possible the doppelgänger could write explicit or adult content in the unique style and manner exactly like the original author, doing so could be a violation of the author's wishes and identity under the person-extension view. More graphically, it might be akin to puppeteering an informational corpse for our own amusement.

The last strategy for decommissioning is destruction. Destruction of digital doppelgängers includes deleting data and software, as well as the disposal of the physical medium in which they are stored. Destruction is ideally a permanent strategy, one that, if done well, cannot be undone. It is also a state that preservation strategies try to actively avoid. Destruction could potentially be more acceptable if the digital doppelgänger is viewed as a proxy. In this way, the doppelgänger is more like an artifact that was owned by the individual, and its destruction may be justified, similar to destroying other possessions. Perhaps the more troubling conflict here centers in the person-extension view. Destroying an extension of personhood without proper memorialization may be seen as a form of digital desecration. In fact, as the digital doppelgänger may be seen as the very last remnant of an individual, some form of respect should be paid to it. For this reason, as physical bodies are honored with funerals, some kinds of ceremonies may be necessary when destroying these last remnants of the individual. However, destruction may be the preferred choice for many of those whom the digital doppelgängers represent, even if they do see it as an extension of

themselves. The original person may wish that all related forms of their personhood are destroyed after serving their purposes.

CONCLUSIONS

Exploring the relationship between representation and decommissioning strategies highlights different normative notions, which are summarized in Table 1. Archival strategies focus more on minimal standards of data storage, maintenance, and protection. Repurposing strategies directly engage with the means of divesting doppelgängers from their original purposes, some of which may be unavailable depending on the respective representational view. Lastly, destruction strategies hold normative notions of memorializing, focusing on acceptance of finality and proper handling of the deceased. This is not meant to be a full account of normative notions implied from viewing digital doppelgängers either as proxies or extensions of personhood. But these do stand out as further areas of needed exploration. Decommissioning, and how it is pursued, should not be forgotten in the ethical considerations of the technological life cycle of digital doppelgängers.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author(s).

FUNDING

This work was supported by the Open Access Publication Fund of the University of Bonn. This work has been funded by the European Research Council as part of the ERC Starting Grant SIMTWIN [No. 101076822]. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Council. Neither the European Union nor the granting authority can be held responsible for them.

ORCID

Andrew J. Barnhart  <http://orcid.org/0000-0002-7935-253X>

Giuseppe Comerici  <http://orcid.org/0009-0009-2520-082X>
 Matthias Braun  <http://orcid.org/0000-0002-6687-6027>

REFERENCES

- Braun, M. 2021. Represent me: Please! Towards an ethics of digital twins in medicine. *Journal of Medical Ethics* 47 (6):394–400. doi:10.1136/medethics-2020-106134.
- Braun, M., and J. Krutzinna. 2022. Digital twins and the ethics of health decision-making concerning children. *Patterns* 3 (4):100469. doi:10.1016/j.patter.2022.100469.
- Corrado, E. M., and H. M. Sandy. 2017. *Digital preservation for libraries, archives, and museums*. 2nd ed. Lanham: Rowman & Littlefield.
- Iglesias, S., B. D. Earp, C. Voinea, S. P. Mann, A. Zahu, N. S. Jecker, and J. Savulescu. 2025. Digital Doppelgängers and lifespan extension: What matters? *The American Journal of Bioethics* 25 (2):95–110. doi:10.1080/15265161.2024.2416133.
- Öhman, C., and L. Floridi. 2018. An ethical framework for the digital afterlife industry. *Nature Human Behaviour* 2 (5):318–20. doi:10.1038/s41562-018-0335-2.
- Sisto, D. 2020. *Online afterlives: Immortality, memory, and grief in digital culture*. Cambridge, MA: MIT Press.

THE AMERICAN JOURNAL OF BIOETHICS
 2025, VOL. 25, NO. 2, 129–131
<https://doi.org/10.1080/15265161.2024.2441727>



Taylor & Francis
 Taylor & Francis Group

OPEN PEER COMMENTARIES



Extending the Self: Examining Motivations and Philosophies in Life Extension Communities

Alberto Aparicio



The University of Texas Medical Branch

Iglesias and colleagues (2025) explore the motivations driving proponents of life extension and examine whether a *digital Doppelgänger*, an AI program built to imitate a person's linguistic, behavioral, and thought patterns or responses, could meet the aims of life extensionists. They examine whether an LLM-based digital Doppelgänger could be considered an extension of a person, or meet the aims associated with desires for such extension, including the aspiration to leave a long-lasting legacy. The authors argue that life extensionists are not as motivated by preserving biological life and more intent on safeguarding the self, even when divorced from physical existence. This study makes a valuable contribution to the ethics of life extension and immortality, particularly through their conceptualization of *person-span*, defined as “the extension of one's mental life without necessarily prolonging one's physical or biological lifespan.”

Scholars have debated whether life is inherently tied to a biological body or if it could exist independently, especially in light of advancements in AI that suggest life might be decoupled from biological systems (Gibson 2024). I will argue that the longevity community (sometimes labeled “anti-aging”), broadly defined, primarily conceives life extension as the maintenance of biological life and bodily functions,

robustly rejecting biological death. Based on extensive fieldwork interviewing longevity enthusiasts, advocates, and researchers, and participating in longevity-focused conferences and events, I have not observed mentions of broadening life extension to encompass considerations of one's legacy as a form of achieving immortality; such as the phrase delivered by Maximus Decimus Meridius in the 2000 film *Gladiator*: “What we do in life echoes in eternity.” My claim is not that (radical) life extension and immortalism can only be understood in the context of perpetuating biological functions. Advances in AI, cybernetics, and evolutionary theory have challenged whether life can be understood as a phenomenon independent of its material embodiment. In his studies of *in silico* life, Stephan Helmreich (2000) has argued that life can be understood as information and possible worlds. Technoscience continues to reimagine and reconfigure life, sometimes as “second nature,” malleable and constrained only by the tools available to tinker with life as we know it (Aparicio 2024a). The ongoing scientific reimagining of human experience and life itself merits further critical analysis.

Discussions about the ethics and desirability of life extension are not novel, with arguments both for (Davis 2018) and against (Callahan 1995; Juengst

CONTACT Alberto Aparicio  alaparic@utmb.edu  Department of Bioethics and Health Humanities, The University of Texas Medical Branch. 301 University Blvd, Galveston, TX 77555, USA.

© 2025 Taylor & Francis Group, LLC.