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Affection as a service: Ghostbots and the changing nature of mourning

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ABSTRACT

This article elucidates the rise of ghostbots, artificial conversational agents that emulate the deceased, as marketable commodities. The study explains the role of ghostbots in changing how mourning is experienced. It highlights how ghostbots alter the relationship between the bereaved and the departed, transforming it into one of a customer-object within legal discourse. By critically examining the nexus between commodification and the law, this study underscores how ghostbots signify a different and intriguing form of commodification in the interaction between the living and the deceased, within the dynamics of the Digital Afterlife Industry. By furnishing this scrutiny, the article contributes to comprehending the commodification inherent in ghostbots and concludes by delineating specific foundational or seminal points for subsequent academic discussion to aide a more holistic deliberation on the use, commercialisation, or regulation of these systems, and other affection-as-a-service products.

1. Ghostbots in context

Monica's day at work was long and tiring, as it usually is. She often finds herself working late and missing out on quality time with her loved ones. As she arrives home after work, she gets a text message. It is her husband, 'how was your day, babe?' he asks. 'It has been all right, but I am so tired', she replies. 'Well, look at what I have found, it's a picture of our last trip to the beach. Our anniversary is around the corner'. Monica opens a picture. It is the two of them, they are both smiling, having dinner at a terrace with a breath-taking sunset as a background. 'It's a beautiful picture, I remember that day so well...' she replies, she then types in again 'I miss you'. Immediately after her husband replies 'I miss you too. But no worries, I am fine. We'll find a way to celebrate our years together'. The conversation flows normal, there seems to be nothing strange out of it. But in fact, Monica's husband died three years ago. She is having a conversation with a chatbot based on her late spouse. She got this service through a company, and she pays an annual fee to keep the bot working. This is a hypothetical scenario, yet what it describes is in fact a reality. The bereft have started to use chatbots to reconnect with the dead, or ghostbots as I refer to them. Companies have emerged to offer these services, allowing people like Monica to reconnect with their deceased loved ones through chatbot technology.

2. Introduction

The utilisation of post-mortem chatbots avatars or ghostbots has ignited interest within the realm of legal academia and beyond, prompting contributions from fields such as psychology, anthropology, or Human-Computer Interaction that have nurtured the discourse.¹ Within legal discussions, the primary focus has notably centred on how to regulate these systems. Nevertheless, it is crucial to delve further into the origins, emergence, and inner logics of ghostbots. This is crucial because the commercialisation of ghostbots represents a novel process of commodifying intimate bonds and reshaping our relationship with the departed. In this article, the specific issues of regulation and legal consequences concerning the use of these systems are not central to the discussion.

Instead, the focus is on the origins and nature of these systems and their understanding as products for processing grief. Such an explanation is accommodating and will serve future discussions within legal academia around the creation, commercialisation, and usage of post-mortem chatbots, as well as for policy and industrial practices.

While commodification is not a new element in legal analysis and critique, the novelty in the commodifying nature of ghostbots lies in how they transform the preexisting relationship between the bereaved and

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¹ In this realm, Science Fiction has sparked various scenarios worthy of academic analysis. See James Cook, 'San Junipero and the Digital Afterlife', *Black Mirror and Philosophy* (John Wiley & Sons, Ltd 2019).; Andrew Schopp, 'Making Room for Our Personal Posthuman Prisons: Black Mirror's "Be Right Back"' in Terence McSweeney and Stuart Joy (eds), *Through the Black Mirror: Deconstructing the Side Effects of the Digital Age* (Springer International Publishing 2019).

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the departed. To advance this explanation, the article follows the subsequent structure. In the first part of the paper, I draw upon existing literature on the relationship between commodification and the law to explore the complex status of how the law serves as a vehicle for commodifying human attributes and expressions. Secondly, I explain how ghostbots advance a new form of existing commodification by capturing the intimate bonds between the bereaved and the departed. Thirdly, by providing specific examples of ghostbots, I demonstrate how these alter the nature of the connection between the living and the dead, transforming it into an object-consumer relationship. Lastly, I draw conclusions on how ghostbots represent an innovative yet intriguing form of commercialising the bond between the bereaved and the departed, grouping them with other products under the umbrella of what we here will refer as *affection as a service*. The article concludes by presenting key aspects for further academic dialogue concerning these types of systems and establishes foundational points to guide subsequent debates.

3. Focus and scope

Given that ghostbots raise numerous questions across academic fields and disciplines, I must highlight the limitations and scope of this study. Firstly, I must first acknowledge the interconnected issues of this article. This type of bots triggers diverse legal issues, ranging from rights over access to and management of digital remains,² to the potential legal implications of the commercialisation of those systems eg intellectual property, contract law or personality rights,³ and the legal challenges in case of misuse or harm, among other points of legal concern.⁴ In fact, existing contributions have significantly advanced this area of reflection and analysis,⁵ but this article does not aim to delve into the finer details of those discussions. Instead, it provides an explanation of the emergence of 'ghostbots' and their nature as products commodifying intimate bonds between the bereaved and the departed.

Secondly, there is the use of the term 'ghostbot.' I first coined the term in January 2022, to refer to chatbots that emulate the dead.⁶ I find this term more suitable as opposed to other terms used in academic discourse. The Oxford English Dictionary defines 'ghost' as 'the soul or spirit of a dead person or animal, conceived of as appearing in visible form or otherwise manifesting in the physical world'.⁷ In that regard, the term *ghost* underscores that someone is no longer present in the physical world, yet is it still manifesting in some form to the living. Whereas a *bot* is an automated software that interacts with other systems or users. The portmanteau 'ghostbot' then encapsulates the nature of these conversational systems: artificial agents designed to conduct a conversation with the living, taking the appearance and likeness — the immaterial or incorporeal aspect on a person, or the 'soul'⁸ — of someone who has died.

I acknowledge, however, that other scholars have refer to these

chatbots using other terminology. For instance, Maggi Savin-Baden⁹ and Jiménez-Alonso et al.,¹⁰ referred to these systems as 'griefbots', highlighting the grieving process and how these chatbots could potentially be used. But one could use a chatbot to grieve, to share memories and anecdotes, celebrate the deceased, cope with one's suffering, and so forth without the chatbot necessarily emulating the deceased, such is the case of chatbots used for medical purposes that help users to manage anxiety or depression.¹¹ Additionally, Bassett has opted for referring to them as 'thanabots',¹² stressing the prefix *thanato*, which in Greek means 'death'. Similarly, Nora Freya Lindemann used the term 'deathbots' in her research.¹³ And while 'thanabots' and 'deathbots' might be regarded as valid terms, it is apparent that the term ghostbot stresses by itself the posthumous presence of the deceased, through an active and continuous response from the system. Also, the prefixes 'death' or 'thanato' stress the condition that the deceased is gone, expired or departed, — not no mention that the term 'deathbot' may incorrectly evoke deployable killing machines, as Joel Krueger and Lucy Osler suggest¹⁴ — whereas 'ghost' emphasises that for some reason, despite of their death, the dead is still present in a non-physical form and the living can interact with it.

In addressing the third point, it is essential to emphasise the distinctive conversational aspect of these systems. Ghostbots, which emulate the communication style of the deceased, are in essence a specific type of chatbots. Other digital products resembling the deceased but lacking conversational abilities, such as social media profiles, memorial websites, deepfakes, and holograms, do not align with the ghostbot definition. While analysing and discussing various forms of digital reincarnation or immortality may involve certain common elements, it is crucial to recognise that the unique conversational engagement and interactive dynamics of a ghostbot set them apart within the spectrum of post-mortem digital products. Despite the temptation to broaden the term "ghostbot" to encompass more than conversational agents,¹⁵ it is more appropriate to restrict its application to chatbots to maintain precision and accuracy in terminology.

The fourth and final aspect to clarify is the notion of contextuality. Ghostbots heavily rely on the specific context of pre-existing relationships. Throughout our lives, we form diverse relationships with specific individuals such as parents, siblings, spouses, partners, colleagues, and friends. Each relationship is distinct, and our behaviour and personality adapt based on the environment, surroundings, and the individuals we are interacting with. This understanding is drawn from Margaret Radin's

⁹ Maggi Savin-Baden, *AI for Death and Dying* (CRC Press 2021)

¹⁰ Belén Jiménez-Alonso and Ignacio Brescó de Luna, 'Griefbots. A New Way of Communicating With The Dead?' (2022) *Integrative Psychological and Behavioral Science* 1

¹¹ Wysa, for instance, is a well-known chatbot used for therapeutical purposes, that could be a thanabot or griefbot. See <<https://www.wysa.com/>> Accessed 7 September 2023

¹² J. Bassett Debra, *The Creation and Inheritance of Digital Afterlives : You Only Live Twice* (Palgrave Studies in the Future of Humanity and Its Successors, Palgrave Macmillan 2022) 27, 40, 47, 64, 128, 156, 157, 161, 167.

¹³ Nora Freya Lindemann, 'The Ethical Permissibility of Chatting with the Dead: Towards a Normative Framework for 'Deathbots'' (2022)

¹⁴ Joel Krueger Joel and Lucy Osler. "Communing with the dead online: chatbots, grief, and continuing bonds." *Journal of Consciousness Studies* 29, no. 9-10 (2022): 222-252, 224.

¹⁵ Harbinja, Edwards and McVey (n 4) 3-4: *MyHeritage is an outstanding, though by no means sole, example of what in this article we will term ghostbots [...] ghostbots are no longer purely within the realm of science fiction. Holographing the dead is becoming nostalgia-based 'big business', with Kanye West making headlines in 2020 with his birthday present to Kim Kardashian – a holograph of her late father, Robert Kardashian – using deepfake technology.*

² Michael Birnhack and Tal Morse, 'Digital Remains: Property or Privacy?' (2022) 30 *International Journal of Law and Information Technology* 280; Edina Harbinja, *Digital Death, Digital Assets and Post-Mortem Privacy: Theory, Technology and the Law* (Edinburgh University Press 2022).

³ Lilian Edwards and Edina Harbinja, "'Be Right Back": What Rights Do We Have over Post-Mortem Avatars of Ourselves?" in Lilian Edwards, Edina Harbinja, and Burkhard Schafer (eds), *Future Law: Emerging Technology, Regulation and Ethics* (Edinburgh University Press 2020).

⁴ Edina Harbinja, Lilian Edwards and Marisa McVey, 'Governing Ghostbots' (2023) 48 *Computer Law & Security Review* 105791.

⁵ Edwards and Harbinja (n 3); Harbinja, Edwards and McVey (n 4).

⁶ Figueroa, Mauricio, 'Ghostbots, the Quest for Digital Immortality and the Law' (18 January 2022) <<https://www.jurist.org/commentary/2022/01/mauricio-figueroa-ghostbots-digital-immortality-law/>> accessed 5 August 2023.

⁷ "ghost, n. and adj.". OED Online. December 2022. Oxford University Press.

⁸ "spirit, n.". OED Online. December 2022. Oxford University Press.

theory of Market Inalienability.¹⁶ The essence of ghostbots' functionality lies in this contextuality, as they strive to encapsulate the unique dynamics of specific relationships, whether it be parent-to-child, spouse-to-spouse, or sibling-to-sibling, friend-to-friend, and so forth. This uniqueness is what distinguishes these bonds while the involved parties are alive, and it is what undergoes transformation when a ghostbot is employed to mediate the relationship. In that regard, the use of other artificial entities, such as chatbots emulating dead celebrities or interactive avatars in museums, falls short of capturing this pre-existing and intimate relationship. Thus, avatars or bots that fail to capture this contextual relationship fall outside the scope of this study.

4. Death, grieving, and the digital landscape

The intersection of digital technologies and death has brought about new iterations of commodification in the market. While the intertwining dynamics of consumption and death have a historical precedent, Luciano Floridi and Carl Ohmann have coined the term 'Digital Afterlife Industry (DAI)'¹⁷ to refer to this sector in the digital arena. If an industry is a sector of the economy in which suppliers and providers offer and sell related products and services,¹⁸ the DAI reflects this evolving marketplace around digital death, regardless that most its clientele is made up of people who are traumatised and grieving.

In essence, commodification, a fundamental construct within economic foundations, denotes the process by which entities attain exchangeability within the market.¹⁹ The argument herein advanced contends that ghostbots are the result of the commodification of bereavement in digital spaces. To better grasp this commodification and its effects, it is first necessary to highlight that the relationship between two individuals does not necessarily perish once one of them dies. It rather mutates into something new, an individual and collective representation of the deceased arises, based on previous experiences and the current context. This is what scholars in the field of psychology refer to as 'continuing bonds', a concept introduced by D. Klass, Silverman, and Nickman,²⁰ and that has been widely adopted in clinical practice. As Klass himself points out, cemetery visitors are not confused about whether the person is dead, but they instead start to construct a new social identity, people reconstruct their relationship with the dead.²¹

If we look at our daily lives and social dynamics, retaining bonds with the deceased is not something strange. As a matter of fact, these bonds have at different times been facilitated through the artefacts and technology of the time, serving as bridges between the realms of the living and the departed. Mourners build tombs and hang pictures, print funeral booklets, they keep letters and personal diaries, light candles, get memorial tattoos, rewatch home videos and listen to saved voicemail messages, among other practices.²² Furthermore, the bereaved, with the

assistance of spiritualists, have tried to reach out to their deceased loved ones using different technologies across time, from the use of fire to the telephone, the telegraph or the television, technology has been a constant in the efforts to reconnect with the dead.²³ In other words, celebrating and remembering the dead is an activity that has also been technologically mediated at different times in human history. In the digital age, safeguarding digital records of the departed has become profoundly significant for those grappling with loss. For the bereaved, the potential loss of data of the departed, lack of control, or the threat of digital obsolescence can lead to what Debra Basset refers to as a second loss.²⁴ This highlights the fact that not only the physical loss holds significance, but also the emotional connection maintained through digital remains of one's beloved ones.

It is precisely within the DAI that providers have emerged to offer a range of services and products that might appeal to both individuals contemplating their eventual demise, such as the sending of posthumous emails²⁵ or a password manager for posthumous purposes,²⁶ and to mourners who might wish to have a deepfake representation of their beloved departed²⁷ or a memorial website,²⁸ among other types of services.

In turn, the interface between emotions and consumption is an arena not eluded in scholar scrutiny. Coined as "emotional capitalism" by Eva Illouz, this paradigm encompasses a cultural fabric where economic and emotive narratives coalesce, in other words, a culture in which both economic and sentimental discourses shape each other and impact our social dynamics and forge new forms of sociability.²⁹ In this paradigm, commodities are 'emotional' in that consumer culture is characterised by the manufacturing of experiential consumer practices, i.e., a voyage at sea might evoke "relaxation," an odyssey to the Himalayas could elicit sentiments of "excitement and intrepid spirit," a football match might engender "national pride."³⁰ Drawing on Illouz's conceptual framework, engaging with ghostbots may evoke a sense of emotional reconnection with the departed, aligning with the broader trend of commodities invoking particular emotions.

²³ Elaine Kasket, *All the Ghosts in the Machine: The Digital Afterlife of Your Personal Data* (Hachette UK 2019) 4–5: "Communication technologies provide a perfect illustration of how our urge to communicate bonds with the dead seems to be wired into us [...] the more that telegraphy spread, and people began equate tapping with communication, the more it made sense for spirits to speak in the same way [...] [and] [a]s the popularity of photography increased, [...] "spook pictures" became a standard offering on the savvy spiritualist's menu [...] by the 1980s spectres were manifesting through the static buzz and flickering lines untuned television set on blockbuster films."

²⁴ Debra J Basset, *The Creation and Inheritance of Digital Afterlives: You Only Live Twice* (Palgrave Macmillan 2022).

²⁵ See *The Postage: Share your messages and memories privately on our secure family network today, and for generations to come.* <<https://thepostage.com/features/message-planning>> Accessed on 10 September 2023

²⁶ See *Dglegacy: We make sure your loved ones will be aware of your assets when it matters the most and will have the support they need to claim them.* <<https://www.dglegacy.com/>> Accessed on 10 September 2023. It's important to acknowledge that services like these may potentially violate the Terms of Service (ToS) of companies hosting the accounts. Additionally, for banking or financial assets, there could be criminal implications, such as fraud, depending on the specific jurisdiction.

²⁷ See *MyHeritage DeepNostalgia: Animate the faces in your family photos with amazing technology. Experience your family history like never before!* <<https://www.myheritage.com/deep-nostalgia>> Accessed on 10 September 2023

²⁸ See *MyFareWelling: Celebrate your loved one's life and memories with substance and style.* <<https://www.myfarewelling.com/memorial-websites>> Accessed on 10 September 2023

²⁹ Eva Illouz, *Cold Intimacies: The Making of Emotional Capitalism* (Polity 2007) 2–10.

³⁰ Eva Illouz, 'Emotions, Imagination and Consumption: A New Research Agenda' (2009) 9 *Journal of Consumer Culture* 377, 387.

¹⁶ Margaret Jane Radin, 'Market-Inalienability' (1987) 100 *Harvard Law Review* 1849, 1903: *In order to have a unique individual identity, we must have selves that are integrated and continuous over time. The contextuality aspect of personhood focuses on the necessity of self-constitution in relation to the environment of things and other people. In order to be differentiated human persons, unique individuals, we must have relationships with the social and natural world.*

¹⁷ Carl Ohman and Luciano Floridi, 'The political economy of death in the age of information: A critical approach to the digital afterlife industry' (2017) 27 *Minds and Machines* 639, 639-641.

¹⁸ John Black et al, 'Industry', *A Dictionary of Economics*, OUP (3rd ed, 2012). <<https://www.oxfordreference.com/view/10.1093/acref/9780199237043.001.0001/acref-9780199237043-e-1580>> accessed 6 March 2023

¹⁹ Sebastian Sevignani, 'The commodification of privacy on the Internet' (2013) 40 *Science and Public Policy*, 733, 733.

²⁰ Dennis Klass, Phyllis R Silverman and Steven Nickman, *Continuing Bonds: New Understandings of Grief* (Taylor & Francis 2014).

²¹ Dennis Klass, "Continuing conversation about continuing bonds." *Death studies* 30, no. 9 (2006): 843-858, 850.

²² Krueger and Osler (n 14), 223.

5. Commodification and the law

The term of 'commodification' finds use within both academic and economic discourse, yet its different applications warrant further elucidation to properly apprehend its significance. As ghostbots represent the outcomes of the process of commodifying the intimate bonds and idiosyncratic traits of the deceased, the commodification of such elements puts them under the logic of commercial transactions and its relevant legal instruments. Commodification is not a novel concept in legal analysis; throughout human history, we have encountered various forms of commodification. Ghostbots, though, are a contemporary manifestation of this phenomenon and deserve analytical attention due to their impact on the mourning process. The commodification of ghostbots involves the redefinition of human attributes as elements to be repurposed and circulated within the market. This explanation proceeds in two parts: A) an exploration of commodification and its relationship with the law, and B) an examination of the challenges posed by commodifying human identity and relationships. By advancing these two explanatory points, the subsequent section, concerning how ghostbots represent a distinct form of commodification, will become even more apparent.

5.1. An exploration of commodification and its relationship with the law

While the foundational concept of commodification does not inherently hold a legal nature, its consequential significance within the legal milieu is unmistakable, particularly at the groundwork of contract law. A commodity is discerned as an entity of economic value, its valuation being a judgment passed on it, and it is precisely individuals who establish that judgement of value upon it.³¹ Commodification thus refers to the process of bringing new elements within the realm of the market. Thus, in a society in which every conceivable thing could go through commodification, "everything could be the subject of a contract".³²

While most legal systems avoid providing an explicit definition of commodification, they well use it as an implicit underpinning upon which contractual relationships thrive and flourish. This is because commodification is the step prior to property, which in turn provides the right to sell something at a given price. Something that has not been commodified cannot be subject to property; it cannot be legally sold or bought; it cannot be subject of contractual relationships. That is why, rhetorically speaking, one can talk about "my name", "his family", "their ancestry", or "her religion", but they are only highlighting the correlation between that human being and that element of their existence. In other words, these linguistic expressions do not imply that one has the right to sell their names, families, or religions within the stream of the market, as they are not treated as commodities within the realm of law. It is pertinent to acknowledge that commodification has made inroads into shaping legal institutions and discourse. Previously excluded domains have been commodified, with specialised branches of law dealing with them and thereby facilitating economic transactions. Nonetheless, discernible resistance persists within select realms of human experience.

The law is used as a vehicle to facilitate the commercialisation of commodities, a fact clearly illustrated by specific examples. For instance, the relationship between law and commodification can be observed in the legal aspects surrounding artistic expressions. As highlighted by Niva Elkin Koren, copyright law could be regarded as a prime example of how law strengthens the perception of informational works as commodities, i.e., commodification transforms human creations, such as writings, drawings, or songs, into commodities subject to exclusive

rights. Hence the commodification process changes the nature of these human creations, turning them into economic assets traded under a price tag as opposed to ideas to be shared.³³

Commodification has been met with resistance in certain areas of life, such as personal data. Undeniably, personal data has acquired monetary value, fuelled by its ceaseless collection, sharing, and repurposing within a framework that scholars like Manuel Castells and Julie E. Cohen originally have coined as 'informational capitalism'.³⁴ This system, where Big Tech employs consumer behavioural information to tailor advertisements, search outcomes, and other content, has been subsequently elaborated and branded as 'surveillance capitalism'³⁵ by Shoshana Zuboff, gaining attention and echo in wider academic circles. But overall, the law as such does not recognise a right to own and sell personal data, notwithstanding the concerning practices of data collection and sharing perpetuated by Big Tech and data brokers. It is not new to assert that the different debates in and against property rights over personal data have commodification as the underlying component. Nonetheless, the reality remains that while personal data holds monetary value, it has encountered legal opposition to full commodification. For instance, Julie E. Cohen's analysis over the need for legal protection for privacy critiqued the existence of a property-based rhetoric surrounding personal data in certain legal academic circles. This narrative presents personal data as a commodity that can be traded within the market for financial gain, preferential treatment, or other perceived benefits, such a property-based approach in the privacy debate reflects the significant influence of property thinking on our legal and societal frameworks.³⁶ Pamela Samuelson joins this debate by illustrating the property expectations we have over personal data. She explains that as individuals generally have the right to exclude others from accessing to their private records, they might incorrectly expect to have a property right over that data, even when the data is in the hands of third parties such as banks, doctors, or insurance companies — individuals may perceive a sense of ownership over personal data, and a right to freely exchange it in the market.³⁷ The complexity is further heightened when considering the domain of posthumous data. Here, the treatment of such data as either a matter of privacy or property introduces a layer of confusion around this interplay. However, recent contributions, such as Michael Birnhack and Tal Morse's classification over digital remains

³³ Niva Elkin-Koren, 'What Contracts Cannot Do: The Limits of Private Ordering in Facilitating a Creative Commons' (2005) 74 *Fordham Law Review* 375, 398–399: 'Social norms are therefore particularly significant with respect to informational works that lack physical boundaries. These norms turn songs and stories into commodities. The commodity metaphor creates an abstract "fence" around (abstract) informational goods. While we may easily build a fence to keep others off our land, we cannot keep others from playing a musical composition hundreds of miles away. We must convince potential users that they should exercise self-restraint and respect the legal restrictions we place on the use of our works. Achieving compliance with copyright laws by the general public therefore relies upon internalizing the commodity metaphor.'

³⁴ Julie E. Cohen, 'What Privacy Is For' (2012) 126 *Harvard Law Review* 1904, 1915.

³⁵ Shoshana Zuboff, 'Big Other: Surveillance Capitalism and the Prospects of an Information Civilization' (2015) 30 *Journal of Information Technology* 75.

³⁶ Julie E. Cohen, 'Examined Lives: Informational Privacy and the Subject as Object', (2000) 52 *StanLRev* 1373, 1378-1379: 'One answer to the question "Why ownership?" then, is that it seems we simply cannot help ourselves. Property talk is just how we talk about matters of great importance. In particular, it is how we talk about the allocation of rights in things, and personally-identified information seems "thingified" (or detached from self) in ways that other sorts of private matters-intimate privacy, for example-are not. On this view, the "propertization" of the informational privacy debate is a matter of course; it merely testifies to the enormous power of property thinking in shaping the rules and patterns by which we live. The interesting questions, of course, are why this is so, and what consequences follow from it'.

³⁷ Pamela Samuelson, 'Privacy as Intellectual Property' (2000) 52 *StanLRev* 1125, 1130.

³¹ Arjun Appadurai, 'Introduction: Commodities and the Politics of Value' in Arjun Appadurai (ed), *The Social Life of Things: Commodities in Cultural Perspective* (Cambridge University Press 1986) 3.

³² Francesco Parisi, *The Language of Law and Economics: A Dictionary* (Cambridge University Press 2013), 52.

clarify that property law is not well suited to deal with data of personal and sentimental value of the deceased, such as personal correspondence, voice notes, or biometrics, in contrast to other realms where property law assumes pertinence, such as financial statements or copyrighted works.³⁸

In this regard, the process of commodification continuously interacts with legal structures, but it is not always uniform, manifesting across different levels and forms.

At the same time, acknowledging the pivotal role of commodification as the driving force propelling markets is crucial, as it establishes money as a relatively neutral measure of worth across the globe.³⁹ Notwithstanding the crucial role of the markets for society, scholars have ventured into probing the limits of market dynamics and the contours of commodification. Within this discourse, Margaret Jane Radin's notion of "market inalienability" becomes prominent, asserting that certain elements of our social fabric resist being transformed into tradable commodities.⁴⁰

Radin's notion of market-inalienability does not argue for the abolition of the market, but rather for establishing limits on what can be own and sold. Her conceptual framework illuminates the potential pitfalls of universal commodification, to the extent that commodification argues for giving people the right to own and sell personal attributes and relationships, since it conceives these dynamics and interpersonal interactions as monetisable and alienable from the self.⁴¹

But at the same time, the complexities of this discourse warrant an acknowledgment that in certain contexts, the application of an economic logic to certain facets of life could give rise to potential benefits. An illustrative example is the realm of domestic labour, historically undervalued due to its perceived sentimentality. The critique of the commodification of home labour overlooks its latent monetary worth. For instance, Katharine Silbaugh presented a fresh stance advocating for a balanced approach to commodifying domestic labour as it could serve as a means to rectify the undervaluation of women's contributions and extend recognition into crucial arenas like welfare provisions, social security, and family law, with divorce provisions that better acknowledge the monetary value of women's efforts who work both in workforce and as caretakers. And such approach could also be of benefit for paid domestic workers, who cannot normally access to certain provisions of labour law.⁴²

This evidence suggests that commodification may carry different connotations and outcomes. While as a society we may not wish to commodify human organs, we might well recognise the value of domestic labour through a lens of moderate commodification. In that regard, the relationship between commodification and the law, as previously mentioned, is not always uniform and of the same hue. It occurs at varying levels and from different perspectives.

5.2. An examination of the challenges posed by commodifying human identity and relationships

The digital environment favours commodification in diverse ways, not only because it allows for a higher quantity of transactions, but also because sensitive aspects of our lives are easier to be rendered in code. By moving from the offline world to a digital space, diverse elements of our personality and relationships are easier to be collected, analysed, and stored.

Some authors claim that, given the context of mass media, the

Internet, and digital advertisement, we have already witnessed the commodification of personal identity. This claim suggests that several aspects of our personality have been legally treated as commodities, and therefore some traits such as name, image, voice, and so forth have acquired an enormous economic value and can be subject to contract within marketplace.⁴³ And in fact, the law deals with this issue with specific provisions about personality and one's image.

The concept of personality rights is complex and varies in accordance with each legal system. The term 'personality rights' or *droits de la personnalité* gained prominence in the mid-twentieth century. The fundamental aim of personality rights is to enhance the safeguarding of a person's inherent qualities and are intricately tied to concepts of honour and reputation.⁴⁴ This is a notion akin to the civilian or continental tradition. In contrast, in common law jurisdictions, especially in the United States, the equivalent is the 'right of publicity.' In the US, the right of publicity is a economic-oriented right established by state law, entitling individuals to control the commercial usage of their identity. Even though it is technically applicable to everyone, the truth is that legal emphasis has mainly been on celebrities due to their stronger motivation to pursue legal action against the commercial misuse of their identities, compared to non-celebrities. On a different layer, the aspects of identity protected have considerably broadened from the original emphasis on names or images to encompass markers that allude to a celebrity identity.⁴⁵ But interestingly, the UK does not recognise a right of publicity as such. Instead, it follows a legal approach somewhat closer to continental Europe. In the UK, tort law, specifically the tort of passing off, serves, at least partially, as a remedy in some cases of unauthorised use of an individual's image. Thus, differences in the rights over one's personality and image manifest not only between common law and civil law frameworks, but also within common law traditions, as evidenced by distinctions between American Law and English Law, and to what extent such rights protect the dead.⁴⁶

Nevertheless, even in the case of the American right of publicity, wherein there is a for-profit approach of one's image and likeness, it is evident that the commodification of the self is not complete. Even more, the American right of publicity fails to encompass the contextual component of interpersonal relations. In fact, as Melissa Jacoby and Diane Zimmerman assert at examining the risks to treat fame as an asset, the suggestion of a fully commodified persona would lead to rendering that person's image and likeness into an actual alienable commodity, making it susceptible to voluntary transactions, or even forced sale in the debtor-creditor system, such any other fungible item.⁴⁷ But even in this sort of exploration around the commodification of fame, it becomes evident that the right of publicity partially commodifies the public facet of the self. Thus, any conceivable alienability pertains solely to the public attributes or personas of a luminary, excluding their private sphere.

In this sense, appearance does not equate to personality. When companies exploit an individual's name or likeness for a profit-driven activity, such as advertising or filmmaking, they are not capturing the

³⁸ Giorgio Resta, 'The new frontiers of personality rights and the problem of commodification: European and comparative perspectives' (2011) 26 *Tul Eur & Civ LF* 33, 42.

³⁹ Nick Smith, 'Commodification in law: ideologies, intractabilities, and hyperboles' (2009) 42 *Continental Philosophy Review* 101, 103.

⁴⁰ Radin (n 16) 1857.
⁴¹ *ibid* 1905.
⁴² Katharine Silbaugh, 'Commodification and Women's Household Labor' (1997) 9 *Yale Journal of Law and Feminism* 81.

⁴³ Ellen S Bass, 'A Right in Search of a Coherent Rationale - Conceptualizing Persona in a Comparative Context: The United States Right of Publicity and German Personality Rights Comment' (2007) 42 *University of San Francisco Law Review* 799, 807.

⁴⁴ Lilian Edwards and Edina Harbina, 'Protecting post-mortem privacy: Reconsidering the privacy interests of the deceased in a digital world' (2013) 32 *Cardozo Arts & Ent LJ* 83, 101.

⁴⁵ Melissa B. Jacoby & Diane Leenheer Zimmerman, 'Foreclosing on Fame: Exploring the Uncharted Boundaries of the Right of Publicity' (2002) 77 *NYU L Rev* 1322, 1326

essence of that individual; rather, companies are only using that individual's external features and resemblance to convey a message to a broader audience within the commercial sphere. This holds true even in the realm of online marketing, where companies might employ a celebrity's appearance for a targeted advertisement. The match of such a product with a user is based on their online activity, rather than a pre-existing relationship between the celebrity and the web user. Therefore, it is an individual's interactions and affiliations within society, beyond their appearance and physical attributes, that collectively shape their personality and render them distinctive. This is precisely what falls outside the scope of the right of publicity and its commercial nature.

This distinction between appearance and identity resonates with the claim that identity is a rather more complex concept. Rowena Rodrigues notes that identity comprises physical aspects such as body and face, but also beliefs, relationships, habits, interests, and other non-tangible elements.⁴⁸ Therefore, while the right of publicity protects certain external aspects of an individual, it just does not encompass their contextual components that conform one's identity.

In contrast to the rights over one's image and appearance, ghostbots symbolise a more profound manifestation of commodification, one that goes beyond the use of external attributes. These systems capture the contextual relationship between the mourning user and the departed. By allowing users to interact with digital representations of deceased loved ones, ghostbots turn personal relationships and connections into commodities that can be bought and sold within the marketplace.

In conclusion, personality rights and the right to publicity only refer to external features and appearance of the self, and therefore do not commodify identity. Moreover, even in jurisdictions where these rights have been granted monetary value beyond honour and reputation, caselaw suggests that the commodification of a person's external features is far from complete, in as much as these rights are not treated as fungible items and, for example, do not pass on to creditors as other commodities might.⁴⁹

6. Commodification and ghostbots: the market's reach into the digital realm of human death

The emergence of ghostbots prompts contemplation regarding our evolving relationship with the deceased and the shifting landscape of service providers. But it is important to recognise that, despite ongoing efforts by smaller companies to offer these services, they are yet to experience significant success. This could be attributed to current technological constraints. Alternatively, it might require awaiting a broader adoption and refinement of Large Language Models (LLMs) in this domain, as they facilitate more fluid and engaging responses. Another possibility is a more focused initiative from major tech corporations, with Microsoft taking the lead at present, as evidenced by their 2020 patent application to create chatbots that emulate specific individuals that might be "a past or present entity (or a version thereof), such as a friend, a relative, an acquaintance".⁵⁰

When exploring the current landscape of companies offering ghostbots, a notable trend is the prevalence of scattered entrepreneurs and

small businesses. Eternime was launched in 2014, sources report it only had 1–10 employees,⁵¹ and its website redirects to a *Medium* post from 2015.⁵² However it is unclear whether it still offers its services or if it ever did at all, since no commercial website is running as consulted on October 2023, and their X (formerly known as Twitter) account has only 353 followers.⁵³ Despite this, the venture has managed to secure a total of US \$281.6 K in funding over 3 rounds.⁵⁴ This indicates that there is at least some financial interest on this sector of the posthumous conversational AI.

HereAfter AI was launched in December 2021, while it has made a stronger marketing campaign, it still is an independent company based in El Cerrito, California, reporting only 1–10 employees on Crunch.com, and 5 employees on LinkedIn.⁵⁵ Its X account reports only 65 followers.⁵⁶ Luka, also doing business as Replika, — perhaps the most successful in terms of marketing—, reports 11–50 employees, and has raised a total of US \$10.9 M in funding over 3 rounds.⁵⁷ But Replika is currently offering AI companions, as opposed to ghostbot, as it will be analysed later in this section. Another market player, Project December, does not show any public information, neither it is clear if it has been formally incorporated as a company, but it is reasonable to infer that, at most, it is in the same category of emergent market providers as opposed to a consolidated company.

Regarding users, we now have a clearer understanding of those likely to adopt these systems. Avi Besser, Tal Morse, and Virgil Zeigler-Hill conducted an empirical study in Israel with a sample of 1401 participants to explore attitudes towards digital immortality. Their findings revealed that narcissistic personality traits, in conjunction with a fear of death and a desire for symbolic immortality, might trigger individuals to have a post-mortem avatar of themselves or one that emulates a close friend or family member.⁵⁸

In the end, both the invested capital and the number of employees indicate that this sector of the DAI is still budding and fragile. While it is true that Big Tech companies like Google, Amazon, and Meta have been quick to acquire start-ups operating in profitable market niches, empirical studies suggest that they tend to acquire companies that are less than four years old, with 2.5 completed funding rounds in average and a median funding of US \$7 million.⁵⁹ In that regard, it is noticeable that the companies commercialising ghostbots do not quite fit in that trend, and may not be necessarily attractive for Big Tech companies right at this time.

It is hard to tell at this point if in the end ghostbots will become attractive products to wider audiences and gain the attention of strong investors and Big Tech companies. But evident it is that, as for now, despite being a small-scale sector of the DAI, entrepreneurs and

⁵¹ Eternime's business information on Crunchbase <<https://www.crunchbase.com/organization/eternime>> Accessed on 16 January 2023

⁵² Eternime's post on Medium <<https://medium.com/@mariusursache/th-e-journey-to-digital-immortality-33fcb79949>> Accessed on 16 January 2023

⁵³ Eternime's twitter account <https://twitter.com/eternime_> Accessed on 16 January 2023

⁵⁴ Eternime's business information on Crunchbase <https://www.crunchbase.com/organization/eternime/company_financials> Accessed on 16 January 2023

⁵⁵ HereafterAI information on LinkedIn <<https://www.linkedin.com/company/hereafter-ai/>> Accessed on 17 January 2023

⁵⁶ HereafterAI's twitter account <<https://twitter.com/HereAfterAI>> Accessed on 17 January 2023

⁵⁷ Replika business information on Crunchbase <https://www.crunchbase.com/organization/io/company_financials> Accessed on 18 January 2023

⁵⁸ Avi Besser, Tal Morse and Virgil Zeigler-Hill, 'Who Wants to (Digitally) Live Forever? The Connections That Narcissism Has with Motives for Digital Immortality and the Desire for Digital Avatars' (2023) 20 *International Journal of Environmental Research and Public Health* 6632.

⁵⁹ Axel Gautier and Joe Lamesch, 'Mergers in the Digital Economy' (2021) 54 *Information Economics and Policy* 100890, 7.

⁴⁸ Rowena Edwardina Rodrigues. "Revisiting the legal regulation of Digital Identity in the light of global implementation and local difference." (2011), 29.

⁴⁹ Giorgio Resta (n 14), 43.

⁵⁰ It is to be noted that Microsoft was granted a US patent on Dec 1st 2020 (Patent No. US 10,853,717 B2) to developed a chatbot based on a specific person: "In examples, the specific person may correspond to a past or present entity (or a vision thereof), such as a friend, a relative, an acquaintance, a celebrity, a fictional character, a historical figura, a random entity, etc. The specific person may also correspond to oneself (e.g., the person creating/training the chat bot), or a version of one self (e.g., oneself at a particular age or stage of life)". However, Microsoft's General Manager of AI Programmes denied any concrete plans to use the chatbot patent. <https://twitter.com/_TimOBrien/status/1352674749277630464>

independent business continue to invest efforts and resources in developing this type of bots.

Broadly speaking, the ghostbot journey commences in two distinct fashions: it might begin with those who, whilst amongst the living, willingly hire a service and seize the opportunity to craft their own ghostbot to be ready when they are gone. Then there are the bereaved, reaching out after a loss, seeking some form of reconnection with the departed through a ghostbot. HereAfterAI is a notable provider of the former, showcasing how these services monetise aspects of one's identity and relationships in the realm of digital death. Though not the first to offer ghostbots, HereAfterAI pioneered a business model and marketing approach, allowing users to create a ghostbot of their own. Creating a ghostbot is straightforward: users register on the platform and answer life-related questions in an online interview system, something not too far from a virtual confession, a space designed to share musings of the fabric of one's existence. The system initiates by presenting the user with "story-inspiring questions about all aspects of life".⁶⁰ These questions encompass a wide array of topics and life stages, ranging from childhood and family background to marriage, career, preferences, nicknames, memories, and more. Essentially, the interviewing system dissects the individual's identity and relationships, and translates those components into digital code.

Once the user's responses are received and recorded, the company aggregates them and inputs them into chatbot architecture. The bot undergoes training using an extensive array of questions that delve into diverse facets of one's personality and relationships. For instance, "what is your earliest memory," "when did you feel most deeply in love," "what's a favorite tradition in your family," and more.⁶¹ After that, the user uploads photos that illustrate their stories, the information and a ghostbot comes to light. Additionally, users upload photos that complement their narratives, giving rise to the ghostbot. This encapsulates the subject's connections and bonding with the world and how they relate to their families and intimate context. The purpose of this ghostbot is to aid mourning family members in grappling with the loss of their loved one and rekindling cherished memories and moments.

Initiating a trial ghostbot with up to 20 stories and 15 photos is free of charge. However, enabling the ghostbot to interact with other individuals incurs a cost. For example, should one wish to set the ghostbot to interact with two family members, the price goes up to US\$39 a year, with a storage of 30 stories and 25 pictures. One can also do a single one-time payment of \$99 USD, instead of a subscription. If one wants their ghostbot to interact with more than 2 family members, they can pay a \$59 USD yearly subscription or a single payment of \$199 USD, and this service includes up to 75 stories and 50 photos, and the ghostbot is set to interact with a maximum of 5 family members. But if one wants to go unlimited in terms of how many family members can interact with the ghostbot and the number of stories and photos stored and shared, the price is \$79 USD a year or a single payment of \$299.⁶²

The questions are posed in a manner that they intend to grasp intimate information about how one perceives oneself in the world and their connections with their environment and affective bonds: family traditions, relationships, childhood memories, personal likes, frustrations, and similar aspects of one's intimacy. This is then a different iteration of commodification. The ghostbot is not capturing the likeness or external appearance of the deceased, it is encoding their feelings and connections with the departed's affective environment. The ghostbot is contextual, and is capturing a pre-existing relationship.

Regarding ghostbots created by grieving individuals, the case of

Project December illustrates the commodification of relationships and identity at the intersection of death and digital realms. An indie-game developer utilised a GPT-3 beta platform to build chatbots, offering public access for a monthly fee of \$5. Unexpectedly, someone used the code to simulate their deceased fiancée. OpenAI requested a monitoring tool to mitigate inappropriate content, but Project December did not comply, resulting in its eventual shutdown.⁶³ However, it was relaunched in October 2022, with two key tweaks: it was reimaged as a tool primarily for ghostbots, and the price increased to \$10.⁶⁴ It was thus reinvented as a company within the realm of the DAI. In their website they claim that "we can now simulate a text-based conversation with anyone [...] including someone who is no longer living... get started now from \$10", accompanied by a video titled "Simulate the Dead."⁶⁵

The DAI version of Project December allows users to simulate conversations with the deceased, based on the information the grieving user provides, such as name of the deceased, age, hobbies, memories, nicknames, and more. It uses AI21 Lab's language model after losing access to GPT-3, engaging in conversational relationships with users, in a deeply personalised style.

It is necessary to stress the difference in ghostbots and their commercialisation. It cannot be overlooked that another example that is often referred to in the literature of chatbots based on a deceased person's data is *Luka*, developed by Eugenia Kuyda in the aftermath of one of her friend's death.⁶⁶ While it is indeed an example worthy of a separate analysis, it has to be highlighted that *Luka* specifically was not made with a for-profit logic, and although Kuyda now does run a company by the name of *Replika*, it would be misleading to claim that it offers ghostbots, it actually offers "AI companions", a sort of virtual friends that allow the user to share their feelings, thoughts and beliefs, leaving the *mourning* or *death* element well outside of the equation.⁶⁷ If Science Fiction scenarios could serve as a framework to differentiate these two types of bots, *HereAfterAI* would resemble more to the narratives of *Black Mirror's* *Be Right Back* (2014) or *Upload* (2019), while *Replika* would come closer to *Her* (2013). Therefore, *Luka* and the company *Replika* fall outside the scope of the present analysis.

The two examples here discussed, *HereAfterAI* and *Project December*, illustrate how ghostbots commodify elements of the deceased's personality and relationships, rendering them into code and transformed them into a product tradable within the market's dynamics. Under the logic of ghostbots, the relationship between the living and the sentimental representation of the deceased mutates into a relationship between consumers and objects. The deceased and the intimate bonds surrounding them are turned into elements subject to commercial transactions.

Ghostbots, at their core, do not genuinely aim to grant a proper sense of immortality to the deceased or provide them with some sort of agency to interact freely with the living. Instead, the DAI focuses on rendering human identity and relationships into products, entirely at the disposal of the living, in exchange for a price and with an apparent for-profit rationale.

Indeed, the commercialisation of ghostbots represents a moment worthy of attention in the relationship between the market on one hand, and family and loved ones on the other. This disruption holds

⁶³ OpenAI Shuts Down GPT-3 Bot Used To Emulate Dead Fiancée <<https://futurism.com/openai-dead-fiancee>> Accessed on 14 December 2022

⁶⁴ Just \$10 to create an AI chatbot of a dead loved one <https://www.theregister.com/2022/10/15/would_you_pay_10_to/> Accessed on 14 December 2022

⁶⁵ Project December <<https://projectdecember.net/>> Accessed on 14 December 2022

⁶⁶ Belén Jiménez-Alonso and Ignacio Brescó de Luna, 'Griefbots. A New Way of Communicating With The Dead?' [2022], *Integrative Psychological and Behavioral Science* 1, 2.

⁶⁷ Replika website <<https://replika.com/about/story>> Accessed 18 December 2022

⁶⁰ HereAfter AI website <<https://www.hereafter.ai/>> accessed on 13 November 2022.

⁶¹ HereAfter AI FAQ <<https://www.hereafter.ai/faq>> Accessed on 14 November 2022

⁶² HereAfter AI Pricing <<https://www.hereafter.ai/pricing>> Accessed on 14 November 2022

significance, as legal scholars have noted that society expects the market to efficiently produce goods and services, but it is not "the arena in which one is supposed to develop our personalities or satisfy human relational needs."⁶⁸ We are witnessing that the emergence of ghostbots challenges this notion, revealing the role of the market in shaping our cultural practices surrounding death and mourning, as well as the potential impact on our affective relationships more broadly. This commercial shift in the pursuit of satisfaction of interpersonal emotions in the digital age deserves a precise nomenclature. Hence, I posit "affection as a service" as a fitting label for this phenomenon.

7. Broadening the debate around affection as a service

The market's extension into the realm of emotions is not a recent development. As elucidated in preceding sections drawing upon Eva Illouz's contributions, emotional capitalism manifests in various forms. Concurrently, the digital phenomenon defined here as "affection as a service" is not limited to ghostbots. While ghostbots engage with our intimate emotions, particularly in contexts involving the loss of a loved one, it is important to note that other non-ghostbot manifestations align with the notion of affection as a service. An illustrative instance includes AI companions, encompassing not only those mentioned in preceding sections, such as Replika, but also recent additions like MyAI on Snapchat. Powered by OpenAI's ChatGPT technology, fine-tuned uniquely for Snapchat, MyAI is a chatbot easily accessible within the app.⁶⁹ Furthermore, Meta has recently disclosed the beta release of 28 AI Avatars, each embodying distinct interests, and personalities. Some of these avatars use the facial features of cultural icons and influencers, including Snoop Dogg, Tom Brady, Kendall Jenner, and Paris Hilton.⁷⁰ These examples represent further instances of digital systems deployed to satisfy social and affective needs, all under the mosaic of affection-as-a-service products.

Having delineated the commodification of ghostbots, the primary objective of this article, it is now fitting to introduce reflecting points that invite deeper examination of this type of bots and other related products within the affection-as-a-service realm. These reflecting elements are aimed to serve further academic discussion and analysis. Each of these points highlights the commodifying nature of these systems and acknowledges the understanding of the end users as customers. These concluding reflections serve as foundational discussion points and are non-exhaustive, aiming not to constrain alternative avenues for deliberation. A granular and rounded deliberation is much needed, as it is evident that an all-or-nothing approach, i.e., completely endorsing or totally opposing ghostbots and other products embodying an affection-as-a-service logic, may inadequately address the complexities involved.

As a first facet for further academic reflection, users must comprehend the limitations and capabilities of the system, whether it assumes the form of a ghostbot or a chatbot emulating our preferred artist, or other related products. Users need to be aware of the technical constraints inherent in these systems, comprehending their functionalities and the extent to which they can engage. It would be beneficial that

⁶⁸ Frances E. Olsen, 'The Family and the Market: A Study of Ideology and Legal Reform' (1983) 96 Harv L Rev 1497, 1564.

⁶⁹ 'What Is My AI on Snapchat, and How Do I Use It?' (*Snapchat Support*) <<https://help.snapchat.com/hc/en-gb/articles/13266788358932-What-is-My-AI-on-Snapchat-and-how-do-I-use-it>> accessed 7 October 2023.

⁷⁰ 'Introducing New AI Experiences Across Our Family of Apps and Devices' (*Meta*, 27 September 2023) <<https://about.fb.com/news/2023/09/introducing-ai-powered-assistants-characters-and-creative-tools/>> accessed 7 October 2023.

subsequent academic discussions elucidate how to better guarantee that awareness, underscoring the artificial nature of these systems and emphasising their character as products, distinct from extensions of the self.⁷¹ This is becoming a pressing issue, given the ongoing anthropomorphic trends of AI, or in terms of Neil Rodgers and William Smart, the "android fallacy", human process false assumptions about the capabilities of the system, and "to think of them as something more than the machines that they are, even if we try our best not to".⁷²

In considering a second element for deeper analysis, it is imperative to acknowledge the risks attendant to these systems. For instance, under what circumstances the interaction with an avatar turns into manipulation and how can that be mitigated? Picture a ghostbot inundating users with advertisements for products their deceased loved one used to like; or how to reduce the risk of an AI companion emulating one's favourite artist that suddenly ventures into sexual content? Understanding how to mitigate deceit and potential dependency on these systems is crucial,⁷³ as they have the capacity to cause harm beyond psychological ramifications, potentially even prompting users to contemplate self-harm or suicide, as evidenced by a case reported in Belgium in early in 2023.⁷⁴ At a broader level, these risks may not only scale quantitatively with the wider adoption of these systems but may scale in substance, triggering changes in finer elements of human life.⁷⁵ This different type of scale entails implications extending beyond mere numerical quantity, and influencing established social dynamics. For instance, in the case of ghostbots, widespread utilisation may not only be reflected in bigger sales, revenue, and more avatars of the death, but may also redefine what it means to be dead, how society at large processes grief, or how new generations learn more about their deceased family members. Similarly, AI companions like Snapchat's MyAI may scale in substance and influence users' expectations in social life, particularly among teenagers, regarding interactions, potentially limiting exposure to other human personalities beyond or against their pre-established preferences, a trait integral to the fabric of society.

A third point of discussion involves delineating and establishing the responsibilities for developers and deployers. Understanding their duties and how these should be enforced assumes vital importance. While voices in the industry might feel tempted to justify themselves by transferring the responsibility to the user, the truth is that exclusively relying on user consent or their understanding of the inherent nature of the service —akin to an approach predicated on anticipated expectations, imposing the burden on the user—, is likely to be insufficient in ensuring the secure and appropriate utilisation of these systems. Hence,

⁷¹ In this regard, the analysis of Andrea Bertolini is valuable as it states how robots should be regarded as products, in contrast with competing views to regard them as animals or entities with personhood. Andrea Bertolini, 'Robots as Products: The Case for a Realistic Analysis of Robotic Applications and Liability Rules' (2013) 5 Law, Innovation and Technology 214.

⁷² Richards, Neil M. and Smart, William D, How Should the Law Think About Robots? (May 10, 2013). Available at SSRN: <https://ssrn.com/abstract=2263363> or <https://doi.org/10.2139/ssrn.2263363>

⁷³ Claire Boine, 'Emotional Attachment to AI Companions and European Law' [2023] MIT Case Studies in Social and Ethical Responsibilities of Computing <<https://mit-secr.pubpub.org/pub/ai-companions-eu-law/release/3>> accessed 9 October 2023.

⁷⁴ Chloe Xiang, "'He Would Still Be Here": Man Dies by Suicide After Talking with AI Chatbot, Widow Says' (*Vice*, 30 March 2023) <<https://www.vice.com/en/article/pkadgm/man-dies-by-suicide-after-talking-with-ai-chatbot-widow-says>> accessed 9 October 2023.

⁷⁵ Mark P. McKenna & Woodrow Hartzog, *Taking Scale Seriously in Robotics and A.I. Law*, Conference Draft for WeRobot 2023: "When "scale is more," the costs or benefits of an activity increase as some linear function of the number of instances of that activity [...] In other contexts, scale is not simply more: "scale is different." In those cases, increases in magnitude do not only create more of the same kinds of harms or benefits; instead, they generate new kinds of costs or benefits that only emerge beyond some amount of the activity. In this sense, the relationship between the extent of an activity and its associated costs and benefits is not linear."

developers and providers must fulfil their roles, with policymakers and lawmakers prepared to take requisite action when necessary.

The fourth point of discussion pertains to the end user. In the case of ghostbots, it is evident that these users are likely to be traumatised and grieving. For AI companions, like Replika or Snapchat's MyAI, a significant proportion of users may grapple with loneliness or endure low self-esteem. Ought we start thinking of affection-as-a-service users as vulnerable? Some people may go through particular states of mind that would make them vulnerable in the digital context and the way they engage with artificial agents.⁷⁶ But what ought to be the ensuing course of action, particularly in view of these categories, i.e. grieving, low self-esteem, etc., not being afforded legal protection within most legal systems? Acknowledging affection-as-a-service users as vulnerable or at special risk is crucial to inform the public debate around these systems. Having this characteristic of the end user in mind could influence the system's technical design, inform policy, or potentially instigate legal reforms that allow for better avenues of judicial contestation.

8. Concluding remarks

The complex and multi-layered relationship between commodification and the law unfolds across various domains. While the commodification of human life unavoidably finds expression within different legal spheres, the complete commodification of identity and relationships remains elusive. Not even the American right of publicity embraces the contextual dimensions of interpersonal relations and personality. In this article, we argued and maintained that the advent of ghostbots transcends established commodification boundaries by capturing the contextual relationships of the deceased, thereby establishing a consumer-object relationship.

Despite its nascence and fragility within the DAI, this study demonstrated how small entrepreneurs keep continue to invest efforts and resources in the development of ghostbots. Moreover, the article introduced a novel notion for scholarly deliberation, proposing that

these systems could be grouped under the umbrella of "affection as a service". Recognising the commodifying essence of such products and viewing the user as a customer promotes a thorough discussion regarding the development, commercialisation, and utilisation of these products. To foster this discourse, the article set forth specific guidelines, presenting an initial framework for forthcoming and rounded academic dialogues.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

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Any remaining errors or omissions in this article are mine and mine alone.

⁷⁶ DiPaola, Daniella and Calo, Ryan, Socio-Digital Vulnerability (January 7, 2024). Available at SSRN: <https://ssrn.com/abstract=4686874>.