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FROM MEMORIES TO DIGITAL IMMORTALITY: PSYCHOLOGICAL AND SOCIAL IMPLICATIONS OF DIGITAL AFTERLIFE IN CONTEMPORARY SOCIETY – A NARRATIVE REVIEW

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ABSTRACT

Background: The accumulation of digital traces and generative AI has transformed death from a private biological event into a persistent, interactive social presence. This challenges detachment models of grief and revitalizes continuing bonds theory, while creating new vulnerabilities including fear of second loss, algorithmic grief triggers and commercialization of mourning.

Methods: We conducted a narrative review following SANRA guidelines. Literature was searched across Scopus, Web of Science, PsycINFO, ACM Digital Library and Google Scholar (2010-2026, focus 2022-2026) for terms related to digital legacy, digital afterlife, online mourning, continuing bonds, griefbots/deadbots, generative ghosts and post-mortem privacy. Thirty-six influential peer-reviewed articles, monographs and conference papers were retained for thematic synthesis.

Findings: We identified three interlocking transformations: from passive archiving to active simulation where griefbots generate novel utterances, from private time-limited to public, networked and algorithmically curated mourning with temporal, spatial and social expansion and platform vernaculars like GriefTok, and from peripheral to central ethics. Building on Price et al. (2025), we propose a four-type typology of digital continuing bonds: passive, active one-way, interactive, and communal. Adaptive value depends on internalized versus externalized bonds, perceived control and offline support. Generative ghosts create ambiguous presence that can scaffold coping through affective scaffolding and habits of intimacy, but also disrupt lived temporality and distort collective memory.

Interpretation: Results inform clinical assessment using Dual Process Model, responsible design principles (opt-in consent, transparency, user control, sunset clause) and regulation of post-mortem privacy at EU level, given the projected 1.4-4.9 billion deceased profiles by 2100.

KEYWORDS

Digital Afterlife, Digital Legacy, Continuing Bonds, Griefbots, Online Mourning, Post-Mortem Privacy

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1. Introduction

Digitalization of death as a socio-cultural phenomenon

Death has always been not only a biological event but primarily a social, cultural and technologically mediated phenomenon (Klass et al., 1996; Walter, 2015). In the dominant psychological models of the twentieth century, inspired by psychoanalysis and early formulations of attachment theory, grief was conceptualized as a process of detachment, whose goal was to sever the affective bond with the deceased and reinvest emotional energy into new relationships. This deathecis model informed both clinical practice and cultural expectations about “closure.” A decisive theoretical rupture occurred with the publication of *Continuing Bonds* edited by Klass, Silverman and Nickman (1996), who, based on ethnographic and clinical observations, demonstrated that maintaining an inner relationship with the deceased is a normative rather than pathological component of adaptation to loss. Continuing bonds were shown to take forms such as sensing presence, internalized guidance, creating legacy, and maintaining rituals. This framework created conceptual space for understanding how people sustain connection after loss, long before digital technologies made such connections visible, durable, searchable and socially shared (Christensen & Gotved, 2015; Walter, 2015).

The last two decades have fundamentally transformed the material conditions of remembering. Contemporary individuals leave a vast, dispersed and often unconscious digital footprint: photographs, instant messages, email threads, social media profiles, search histories, location traces, voice notes and video recordings. These traces do not disappear with biological death (Bassett, 2022; Harbinja, 2023). Bassett (2022), in her monograph *The Creation and Inheritance of Digital Afterlives: You Only Live Twice* published by Palgrave Macmillan, argues on the basis of interviews with service providers, digital creators and digital inheritors that digital artefacts are often experienced as more intimate than physical keepsakes because they embody the essence of the deceased, containing voice, movement, humor and interactive history. Unlike a static photograph, a Messenger thread can be scrolled, replayed and responded to. Sisto (2020) in *Online Afterlives*, published by MIT Press, describes this transition as a shift from a culture that writes about death to a culture in which death itself becomes socialized, networked and persistently visible. Kasket (2019), one of the first psychologists to work on the psychology of cyberspace, warned that digital afterlife is a natural consequence of the information age for which almost no one is emotionally, socially or organizationally prepared.

The scale of the phenomenon is unprecedented and empirically measurable. Öhman and Watson (2019), in an article published in *Big Data & Society*, projected the future accumulation of profiles belonging to deceased Facebook users. Even if Facebook ceased to acquire new users as of 2018, at least 1.4 billion profiles of deceased users would exist by 2100. Under continuous growth, this number would exceed 4.9 billion. The dead would numerically outnumber the living on the platform, producing what the authors and later commentators have called a digital necropolis. While precise numbers will change with platform popularity, the structural point remains: for the first time in human history, a private corporation administers an archive of the dead larger than any cemetery or national archive.

Why the topic matters

The significance of this transformation is threefold: psychological, social and ethical-legal, and these dimensions are entangled.

First, psychologically, digital afterlife fundamentally changes the ecology of mourning. Continuing bonds theory (Klass et al., 1996) has gained powerful new tools, but also new vulnerabilities. As shown by the qualitative meta-synthesis by Price et al. (2025) published in *OMEGA – Journal of Death and Dying*, which synthesized seven primary qualitative studies, the use of social media to maintain bonds clusters around five themes: (1) broadcast grief – public announcement and narrative of loss, (2) immortalized in tech – preservation of the deceased in a durable medium, (3) reachable entity – experiencing the deceased as still

contactable, (4) collective grief – co-construction of mourning in networks, and (5) revolutionised grief – sense that grief itself has been transformed by technology. This synthesis clarifies that digital bonds are not a monolithic practice but a set of distinct practices with different psychological functions.

Second, socially, we are witnessing a transformation of funeral rituals and mourning norms. Gibbs et al. (2015) described funeral-related practices on Instagram as a platform vernacular – highly visual, emotionally charged and structured by affordances such as hashtags (#funeral, #RIP, #grief), tagging and commenting. Brubaker et al. (2013) demonstrated in a study published in *The Information Society* that Facebook profiles of the deceased are transformed into spaces of communal mourning involving three expansions: temporal expansion (mourning does not end after the funeral), spatial expansion (people who could not attend physically can participate) and social expansion (distant acquaintances become mourners). Recuber (2023) in *The Digital Departed*, published by NYU Press, analyzes how people use digital media to confront death, commemorate life and pursue virtual immortality. On TikTok, the GriefTok subculture – short POV videos such as “POV: you lost your mom” accumulating millions of views – illustrates both democratization of grief and emergence of new performative norms optimized for algorithmic visibility (Eriksson Krutrök, 2021).

Third, ethically and legally, the development of generative artificial intelligence in 2022-2024 introduced a qualitative discontinuity. Systems referred to as griefbots, deadbots, thanabots and postmortem avatars enable creation of interactive representations of the deceased trained on their data and capable of generating novel utterances, not merely replaying old messages (Hollanek & Nowaczyk-Basińska, 2024; Meitzler et al., 2024). This moves the field from archiving to simulation, with profound implications for authenticity, consent and collective memory.

Aim of the paper

The aim of this narrative review is a critical synthesis of the current state of knowledge on psychological and social implications of digital afterlife in contemporary society. Specifically, the paper aims to: (a) clarify terminology distinguishing digital legacy and digital afterlife, (b) describe transformation of spaces, rituals and dynamics of online mourning, (c) analyze psychological consequences and functions of digital continuing bonds, including their adaptive and maladaptive variants, (d) present the breakthrough associated with generative AI and griefbots, and (e) systematize ethical and legal challenges. By integrating perspectives from psychology, human-computer interaction, media studies, philosophy and law, the review seeks to provide a foundation for future empirical research and responsible design.

2. Methodology

The review was designed as a narrative review consistent with the SANRA guidelines – Scale for the Quality Assessment of Narrative Review Articles (Baethge et al., 2019). SANRA was developed to improve rigor of narrative reviews and includes six items: justification of importance, statement of concrete aims, description of literature search, referencing, scientific reasoning and appropriate presentation of data.

The choice of a narrative rather than fully systematic approach was deliberate and theory-driven. The field of digital afterlife is highly interdisciplinary, spanning psychology, HCI, media and communication studies, philosophy and law, and is subject to rapid technological change related to the generative AI turn in 2022-2024 (Doyle & Brubaker, 2023; Green et al., 2006; Baumeister & Leary, 1997). In such an emerging, conceptually fragmented field, a systematic review with narrow PICO criteria would exclude important theoretical monographs (Bassett, 2022; Sisto, 2020; Recuber, 2023) and high-impact conference papers (CHI, CSCW) that shape discourse but do not fit a clinical trial template. Green et al. (2006) and Baumeister and Leary (1997) argue that narrative reviews are particularly valuable for theoretical integration and identification of research gaps when a field is conceptually heterogeneous.

2.1. Search strategy

The search was conducted in five databases: Scopus, Web of Science, PsycINFO, ACM Digital Library and Google Scholar. Search strings combined Boolean operators and included: digital legacy, digital afterlife, digital mourning, continuing bonds AND digital, griefbots, deadbots, postmortem avatars, post-mortem privacy, thanatechnology, digital necromancy, fear of second loss, affective scaffolding, digital immortality, generative ghosts, AI afterlife. The search was limited to 2010-2026, with particular emphasis on 2022-2026 due to the generative AI turn (Hollanek & Nowaczyk-Basińska, 2024; Meitzler et al., 2024). The initial search yielded approximately 200 records based on titles and abstracts. After screening for thematic relevance and

removal of marketing materials and purely technical reports, 36 key publications that were most influential, highly cited or conceptually novel were retained for in-depth synthesis, including two foundational works for grief theory and cyberthanatology (Klass et al., 1996; Sofka, 1997). This purposive sampling strategy is consistent with recommendations for narrative reviews aiming at conceptual synthesis rather than exhaustive coverage.

2.2. Selection criteria and synthesis process

Inclusion criteria were: (1) thematic relevance for digital death, mourning and digital afterlife, (2) peer-reviewed scientific articles, scholarly monographs or highly cited conference materials (e.g., CHI, CSCW), (3) English or Polish language, (4) availability of full text. Exclusion criteria were: (1) popular science articles without scientific apparatus, (2) marketing materials from companies in the digital afterlife industry, (3) purely technical reports without psychological, social or ethical discussion. The selection was performed by the authors with attention to theoretical saturation across disciplines.

Due to methodological heterogeneity of included works – ranging from qualitative interviews and digital ethnographies to philosophical analyses and legal commentaries – no statistical meta-analysis was conducted. Instead, a narrative synthesis with elements of thematic analysis was applied, organizing results into six thematic areas corresponding to the structure of the Results chapter. Referencing follows APA 7th edition. Scientific reasoning was supported by triangulation across disciplines and by distinguishing descriptive findings from interpretive claims.

3. Results

3.1. Digitalization of death and new forms of memory

Digitalization of death refers to the growing presence of digital technologies in processes related to dying, mourning and remembering (Christensen & Gotved, 2015; Sofka et al., 2012; Walter, 2015). This trajectory was anticipated as early as 1997 by Sofka (1997), who in a foundational analysis of thanatology and the information superhighway described the emergence of social support “Internetworks,” the commercialization of death-related services online, and the internet’s potential to transform how individuals seek information, support and community around loss. Walter (2015) describes the history of mourning as a transition from communal mourning in pre-modern communities, where death was witnessed and collectively ritualized, through privatized mourning in modernity (19th-20th century), where grief became sequestered to the private sphere and professionalized, to a renewed, technologically mediated public expression of loss in late modernity. Christensen and Gotved (2015) argue that the internet has ceased to be merely a tool for communication among the living and has become a space where meanings related to loss are stored, reproduced and negotiated. They introduce the concept of online memorial culture to capture this shift.

A key change is the nature of memory itself. Traditional forms such as albums, letters or tombstones were tied to a specific place, limited modifiability, slow degradation and intentional curation. Digital representations are characterized by four affordances identified by Brubaker et al. (2013) and Bassett (2022): persistence (they remain accessible unless deleted), replicability (they can be copied perfectly), scalability (they can be shared to large audiences instantly) and searchability (they can be found via search). Consequently, memory becomes a dynamic, distributed process co-created asynchronously by many people, rather than a private possession.

Platform governance shapes these practices. Facebook introduced memorialization in 2009 and legacy contact in 2015. Memorialized profiles cannot log in, but friends can post on the timeline, which becomes a sanctuary and a site of ongoing biography. Instagram memorialization, expanded with ‘Remembering’ banner in 2020, is similar but more visual and hashtag-driven. TikTok’s For You Page introduces a distinct problem: it can resurface videos of a deceased creator long after death, producing involuntary encounters for followers because the recommendation algorithm does not know the person is dead. This extends the mechanism of algorithmic memorial videos and inadvertent algorithmic cruelty documented by Lambert et al. (2018) on Facebook to TikTok’s more opaque, engagement-driven curation (see also Eriksson Krutrök, 2021). Doyle and Brubaker (2023) call for better legacy management tools that go beyond binary options of deletion vs. memorialization and allow for granular control, temporal boundaries and consent preferences.

The materiality of digital memory is paradoxical. Unlike physical letters that decay slowly, digital data appear indestructible, yet they are vulnerable to format obsolescence, account suspension, platform shutdown

and corporate acquisition (Bassett, 2022; Doyle & Brubaker, 2023). Bassett's respondents reported significant anxiety that a platform update or terms-of-service change could erase years of interactions with the deceased's profile, leading to what participants called a second loss – the loss of the digital presence after the biological loss. This fear shapes how people curate, screenshot and archive digital remains, often engaging in invisible preservation labor.

Sisto (2020) argues that digital immortality is an oxymoron: what endures is not the person but a document, a trace, an archive. However, for the bereaved, the trace is phenomenologically experienced as presence. This ontological-phenomenological gap – ontologically data, phenomenologically a person – is at the heart of digital afterlife and explains its emotional power and ethical complexity.

3.2. Digital legacy vs digital afterlife – conceptual clarification

Two concepts function in the literature, often used interchangeably but requiring distinction. Doyle and Brubaker (2023), in a systematic literature review covering 200 publications, demonstrated that the field is fragmented between HCI, thanatology, law and media studies, with inconsistent definitions and limited cross-referencing.

Digital legacy is defined as a process involving encoding, storage and interpretation of digital data after death, including issues of ownership, access and management (Doyle & Brubaker, 2023; Harbinja, 2023). It includes both intentional traces (e-mails, posts, blogs, selfies) and unintentional ones (logs, metadata, search history, location data) (Savin-Baden & Burden, 2019). The central question of digital legacy research is managerial and infrastructural: what should be done with data, who should have access, how long should it be preserved, and how can it be deleted? This strand draws heavily on information science and law.

Digital afterlife is understood as a more active phenomenon: persistent and interactive presence of the deceased mediated by technology, ranging from memorial profiles that continue to receive birthday messages to generative avatars creating new utterances that the deceased never said (Öhman & Floridi, 2017; Meitzler et al., 2024; Hollanek & Nowaczyk-Basińska, 2024). Öhman and Floridi (2017) introduced the concept of political economy of digital death to capture how digital remains become economic goods managed by private corporations, with value extracted through data retention, engagement and potentially subscription models. Öhman (2024) updated this argument, noting increasing concentration of digital remains in a few companies – Meta, Google, Microsoft – which creates infrastructural dependencies and lock-in effects.

The distinction has practical implications. Digital legacy concerns management: what to do with data, who has access, how to delete it. Digital afterlife concerns presence: how the deceased remains socially active, how they are represented, how they affect the living. Bassett (2022) introduces the figure of digital zombies – physically dead, virtually alive and socially active users – and fear of second loss as an affective dimension of this presence. While legacy is about past traces, afterlife is about future interactions.

3.3. Online mourning – spaces, rituals and dynamics

Social media have transformed mourning from a private, time-limited experience into a public, networked and potentially indefinite one. Profiles of the deceased function as reference points for communal experiencing of grief and as sites for durable biography (Brubaker et al., 2013; Gibbs et al., 2015). Gibbs et al. (2015), in *Information, Communication & Society*, described funeral-related practices on Instagram as a platform vernacular: highly visual, emotionally charged and structured by affordances such as hashtags #funeral, #RIP, #grief, by geotagging and by algorithmic visibility.

Sofka et al. (2012) showed that online memorials provide continuous access to support that is not limited by time, geography or office hours. Price et al. (2025), in the qualitative meta-synthesis of how people use social media to maintain continuing bonds, identified five themes: broadcast grief (publicly announcing loss and inviting support), immortalized in tech (perceiving technology as preserving the deceased), reachable entity (experiencing the deceased as still contactable through their profile), collective grief (co-constructing mourning with others) and revolutionised grief (sense that technology has fundamentally changed what grief is). These themes point to affirmation of relationships and co-construction of the deceased's posthumous identity through comments, stories and collaborative remembrance.

The commercial dimension is already visible. Doyle and Brubaker (2023) show that digital legacy is shaped by terms of service of private companies owning platforms. Platforms decide what happens to a profile after death, how long data are stored, who can gain access and what content is permissible (Harbinja, 2023; Öhman & Floridi, 2017). Mourners have little legal leverage. This creates a tension between user expectations of a digital home for the deceased and platform logics of engagement and monetization. Affective architectures

such as Facebook Memories or Timehop, optimized for engagement, may resurface painful content without consent, blurring support and exploitation - a phenomenon described as algorithmic memorial videos and inadvertent algorithmic cruelty (Lambert et al., 2018).

The TikTok phenomenon known as GriefTok further illustrates new norms (Eriksson Krutrök, 2021). Short, emotionally intense POV videos – “POV: you lost your mom and hear her voice in the supermarket” – gather millions of views and create peer support, but also incentivize performative vulnerability optimized for the For You Page. Recuber (2023) notes that such visibility democratizes grief but also creates new hierarchies of grievable lives based on algorithmic amplification.

3.4. Psychological aspects – continuing bonds in the digital environment

Continuing bonds theory remains the central psychological framework for understanding online mourning (Klass et al., 1996; Price et al., 2025). Effects are ambivalent and depend on form, timing and context of the bond. On the adaptive side, online bonds can provide comfort, social support, meaning-making and a sense of enduring presence, especially when offline support is limited, stigmatized or geographically distant. On the maladaptive side, algorithmic, uncontrolled reminders can be described as intrusive, triggering and associated with deterioration of well-being, rumination and feeling of being stuck (Bassett, 2022; Price et al., 2025).

It is important to distinguish between internalized and externalized forms of bonds, a distinction discussed in bereavement literature and raised in the digital context by Price et al. (2025). Internalized bonds include incorporating the deceased’s values, lessons and imagined advice into one’s own identity and decision-making (“What would she do?”). Externalized bonds include seeking physical presence, treating digital representations as literal substitutes, attempting to maintain daily routines as if the person were still alive, or feeling that the profile is the person. Research suggests that internalized bonds are associated with better adaptation and posttraumatic growth, while externalized bonds, especially when rigid and prolonged, are associated with risk of prolonged grief disorder.

Building on Price et al. (2025) and Krueger and Osler (2022), we propose a working typology of digital continuing bonds that may be useful for future research and clinical assessment: (a) passive bonds – viewing a profile, reading old messages, listening to saved voicemails without active interaction; these are common, often comforting, low-risk, but can become compulsive if driven by notifications; (b) active one-way bonds – publishing messages to the deceased, anniversary posts, lighting virtual candles, posting “I miss you” on their wall; these serve broadcast grief and identity affirmation functions and create a durable biography; (c) interactive bonds – conversing with a griefbot, chatbot trained on the deceased’s data, voice cloning, or generative avatar; these offer illusion of reciprocity and are psychologically most transformative and ethically most contested; (d) communal bonds – participation in collective memorialization, moderating a memorial page, organizing fundraising in memory, commenting on others’ memorial posts. Each has different clinical implications and different relationships to platform affordances.

Stroebe and Schut’s (1999) Dual Process Model of Coping with Bereavement is helpful for understanding this ambivalence. Healthy mourning requires oscillation between loss orientation (yearning, remembering, confronting pain) and restoration orientation (rebuilding life, learning new roles, distraction). Social media can support both orientations: memorial groups support loss orientation, while everyday distraction supports restoration. However, algorithmic reminders such as “You have a memory with...” or “Say happy birthday to...” can trap a person in loss orientation, interrupting restoration and creating involuntary grief triggers (Lambert et al., 2018; Price et al., 2025).

Philosophical perspectives add depth to this analysis. Krueger and Osler’s (2022) concept of habits of intimacy describes how repeated micro-interactions – checking a profile each morning, sending goodnight messages – become part of lived routine and scaffold a sense of connection. Fabry and Alfano’s (2024) framework of affective scaffolding, drawing on extended mind theory, shows that a chatbot can become part of the bereaved person’s cognitive system – extending the mind beyond the brain and functioning as an external emotion regulator. If the system is used as scaffolding – temporary, supportive, under user control, enabling gradual rebuilding of autonomy – it can be helpful. If it is used as a prosthesis – permanent, substituting, opaque, creating dependency – it can be harmful and lead to what the authors call loss of autonomy. Stendera (2025), drawing on Heideggerian phenomenology, shows that grief is fundamentally a temporal experience involving disruption of world-time. Griefbots offer immediate presence where there should be absence, creating an eternal present that may interfere with the temporal work of grief, which requires learning to live with absence and retemporalization of one’s lifeworld.

3.5. AI and griefbots – from archiving to simulation

The period 2022-2024 represents a qualitative shift from passive storage to active simulation. Contemporary systems enable creation of interactive, dynamic representations of the dead capable of generating new content, not only reproducing old messages (Hollanek & Nowaczyk-Basińska, 2024; Meitzler et al., 2024). In the literature they are called griefbots, deadbots, postmortem avatars, generative ghosts, thanabots (Bao & Zeng, 2024; Jiménez-Alonso & Brescó de Luna, 2023).

Technically, these systems operate by fine-tuning large language models on data left by the deceased: messages, e-mails, social media posts, voice recordings, sometimes extended with retrieval-augmented generation (RAG) that grounds responses in specific documents. More advanced systems integrate voice cloning (e.g., ElevenLabs, Respeecher) and synthetic video (e.g., D-ID, HeyGen) to produce embodied avatars. Hollanek and Nowaczyk-Basińska (2024) define them as virtual representations of self that can be used long after biological death and that raise questions of responsible application in the digital afterlife industry.

Psychologically, griefbots fundamentally transform continuing bonds. Krueger and Osler (2022) argue that chatbots may play an important role in establishing continuing bonds by helping develop habits of intimacy – repetitive, everyday micro-interactions sustaining a sense of connection, similar to how we maintain intimacy with the living. The difference is that reciprocity is simulated. Stendera (2025) and Fabry and Alfano (2024) add that this changes phenomenology of mourning, disrupting world-time and lived temporality and potentially creating a form of presence that is neither fully absence nor presence, but an ambiguous digital presence.

Empirical studies on user perception indicate deep ambivalence. Morse (2023) in *Information, Communication & Society* and Savin-Baden and Burden (2019) describe the phenomenon as digital necromancy, where users perceive postmortem communication technologies as simultaneously comforting and uncanny (uncanny valley of grief). Comfort comes from hearing a familiar voice or receiving advice in a known style; eeriness comes from awareness that the person is dead and that the system may hallucinate.

Recuber (2023) presents the dead not only as memorials but as extensions of self – digital souls worthy of moral consideration and with interests that persist. Meitzler et al. (2024) emphasize that ability to create new utterances means representation is not a faithful copy but an algorithmic construction that can hallucinate, attribute to the deceased views they never held, take political stances, and distort biographical and collective memory (Meitzler et al., 2024; Morse, 2023). This risk is amplified for public figures whose synthetic statements may be taken as historical record. Morse (2023) adds that generative AI blurs the line between authentic memory and synthetic content, creating challenges for historiography and family memory.

It is useful to distinguish two strands of research on AI afterlife that are sometimes conflated: (1) Generative Ghosts – a theoretical-ethical concept developed by Morris and Brubaker (2024, preprint arXiv:2402.01662) describing generative systems as ghosts that evolve after death, can be prompted by multiple people, and raise anticipatory ethical questions about consent, identity, and second death; and (2) AI Afterlife as legacy – empirical research on user perceptions of designing one's own avatars, conducted by Lei et al. (2025) in CHI '25, showing that people want to curate what is preserved, want mechanisms for evolution vs. preservation, and worry about burdening loved ones.

3.6. Ethical challenges of digital afterlife

Literature converges on four key ethical areas: consent, postmortem privacy, authenticity and ownership, and commercialization (Hollanek & Nowaczyk-Basińska, 2024; Meitzler et al., 2024; Öhman & Floridi, 2017; Harbinja, 2023).

First, consent. Most commercially available deadbots are created without explicit consent of the person they represent. Data often come from family members or public sources (Hollanek & Nowaczyk-Basińska, 2024; Stendera, 2025). Even when consent is obtained, questions remain about scope: did the person consent to a static archive or to a generative agent that can produce new political statements? Harbinja (2023) proposes new conceptual vocabulary of postmortem privacy to address this gap, distinguishing informational privacy, reputational privacy and relational privacy.

Second, postmortem privacy. Digital data are located on platforms owned by private enterprises and subject to terms of service that can change unilaterally. Öhman and Floridi (2017) introduced the political economy of death in the information age to show that remains of the dead become commodities whose value is extracted through data retention and engagement. Öhman (2024) updates this argument, noting concentration of digital remains in a few companies – Meta, Google, Microsoft – which creates infrastructural lock-in and makes deletion practically impossible. Harbinja et al. (2024) in a study in the United Kingdom found a mismatch between user expectations and actual planning. Users overestimate legal protections.

Third, authenticity and disinformation. Griefbots are not faithful copies but algorithmic constructions that can hallucinate and attribute to the deceased views they never held (Hollanek & Nowaczyk-Basińska, 2024). Meitzler et al. (2024) note that ability to create new utterances can affect collective memory and the deceased's biography, especially in case of public figures, victims of trauma or historical witnesses. When synthetic testimony is introduced into family memory or public archive, future generations may not be able to distinguish authentic from synthetic. Morse (2023) adds that generative AI blurs boundary between authentic memory and synthetic content, raising questions about right to authentic past.

Fourth, impact on mourning and risk of dependency. Digital forms of continuing bonds can have both adaptive and maladaptive effects, especially when technology replaces social support from the living, becomes a secret that isolates, or is used compulsively (Price et al., 2025; Hollanek & Nowaczyk-Basińska, 2024). Bassett (2022) introduces fear of second loss as central for understanding emotional burden of managing digital legacy: people fear losing access to profile, fear platform deletion, fear that they will forget how deceased typed. This creates prolonged vigilance and responsibility.

The legal landscape is fragmented and lagging behind technology. Harbinja (2023) shows that in the EU, GDPR does not apply to the deceased (Recital 27), leaving regulatory gap that member states fill inconsistently. France, for example, recognizes postmortem data rights via *Loi Informatique et Libertés*, while Germany does not. In the US, the Revised Uniform Fiduciary Access to Digital Assets Act (RUFADAA) gives fiduciaries some access, but platforms often override it with terms of service and require court orders. Property vs. privacy vs. contract law frameworks collide. Worth (2025) in *Nature Outlook* summarizes current public debate: developers of griefbots point to support potential and user autonomy ("people want this"), critics warn of emotional risk, deception and commercialization of grief. Harbinja (2023) and Öhman (2024) argue that without regulation, we risk emergence of subscription-based immortality – ability to keep deceased interactive only for those who can pay – creating a class-based digital necropolis.

4. Discussion

This review indicates three key processes of transformation that cut across psychological, social and ethical domains.

First, evolution from passive archiving to active simulation. Early works defined digital legacy as a set of data, an archive, inheritance (Doyle & Brubaker, 2023; Harbinja, 2023). Social media then became a site of expansion of death and mourning (Brubaker et al., 2013; Gibbs et al., 2015). The breakthrough occurred in 2022-2024 with generative AI. Contemporary griefbots not only reproduce old content but generate new utterances, offering illusion of two-way communication (Hollanek & Nowaczyk-Basińska, 2024; Bao & Zeng, 2024). This creates interactive presence beyond memory and changes ontology from being-remembered to being-simulated (Meitzler et al., 2024). Ontologically, the dead shift from absent persons remembered to present data simulated. Phenomenologically, for users, they may shift from absence to ambiguous presence. This shift requires new theoretical vocabulary beyond continuing bonds – concepts such as affective scaffolding, habits of intimacy, generative ghosts and digital necromancy attempt to capture this new condition.

Second, transformation of mourning from a private experience to a public, communal and algorithmically curated experience. Walter (2015) argued that social media contribute to a return to more expressive, shared mourning of late modernity, but in a new form – networked, mediated, persistent and curated. Price et al. (2025) in a meta-synthesis of seven qualitative studies show that users use social media precisely to maintain these bonds through broadcasting grief, permanently storing traces and collective commemoration. The GriefTok phenomenon illustrates democratization of grief – anyone can publish grief and find peer support – but also new norms of performative grief optimized for algorithmic visibility (Recuber, 2023). Effects are ambivalent. Online continuing bonds can provide comfort, validation and ongoing biography (Klass et al., 1996), but algorithmic reminders can be experienced as double loss and as intrusive (Bassett, 2022). The Dual Process Model (Stroebe & Schut, 1999) is particularly useful here: healthy adaptation requires oscillation between loss and restoration orientation; platforms may support both, but engagement-optimized design may trap users in loss orientation. Key moderators identified across studies are internalized vs. externalized bonds, perceived control over encounters (intentional vs. algorithmic), and availability of offline support.

Third, emergence of ethics as a central, not peripheral, problem. Four areas – consent, postmortem privacy, authenticity and commercialization – result directly from political economy of digital death (Öhman & Floridi, 2017; Öhman, 2024). Affective architectures of platforms such as Facebook Memories are optimized

for engagement, not well-being, creating conflict of interest (Bassett, 2022; Kasket, 2019). Additional underexplored dimensions include risk of a class-based necropolis where interactivity requires subscription (Öhman & Floridi, 2017; Öhman, 2024; Harbinja, 2023). Fabry and Alfano (2024) highlight loss of autonomy as distinct ethical concern: overreliance on deathbot for emotion regulation may erode ability to self-regulate and to rebuild lifeworld without mediation.

Limitations of this review include: (1) its narrative rather than fully systematic nature – lack of formal quality assessment (e.g., CASP, JBI) and risk of selectivity, which is however inherent to narrative reviews according to SANRA and appropriate for a fragmented interdisciplinary field; (2) language and platform bias – most included studies concern English-speaking users of Facebook and Instagram, practices in Asia (LINE, WeChat, KakaoTalk), Africa and Latin America, as well as non-Western cosmologies of death, are underrepresented; (3) lack of longitudinal studies – no study has followed griefbot users for more than a few months, no data on risk of prolonged grief disorder measured with PG-13 or on effects of long-term use beyond novelty period; (4) rapid technological obsolescence – works from 2022-2023 may be partially obsolete given 2025-2026 multimodal models capable of voice, video and real-time interaction; (5) limited perspective of dying persons themselves – most research focuses on bereaved, not on whether and how people want to be simulated.

Future directions should address these gaps. We need: (a) longitudinal studies comparing passive vs. interactive bonds and their relationship with adaptation, using validated measures such as PG-13 and Digital Continuing Bonds Scale if developed; (b) perspective of dying persons – do they want to be simulated, what boundaries would they set, how do they curate data for future ghosts; (c) validation of Digital Continuing Bonds Scale (DCBS) with subscales for passive, active, interactive and communal bonds, distinguishing internalized and externalized forms; (d) intercultural studies, including comparative studies of GriefTok in US vs. mourning practices on WeChat; (e) research on children who first encounter a grandparent through a griefbot – how does AI-mediated intergenerational memory shape identity and family narrative; (f) studies on invisible emotional labor of curators of digital legacy, who are often women performing kin work; (g) experimental studies on transparency interventions – does labeling content as synthetic reduce hallucinations' impact on collective memory.

5. Practical implications and conclusions

Practical implications are threefold.

For psychologists, psychotherapists and counselors, there is a need to include digital dimension in clinical assessment and intervention. Questions about digital aspects of grief should become routine: Do you visit their profile? Do you receive algorithmic reminders? Do you have access to their messages? How do you use them? Psychoeducation about adaptive vs. maladaptive forms of digital bonds – e.g., intentional anniversary rituals (controlled, intentional, time-limited) vs. compulsive checking triggered by notifications – can be integrated into grief counseling (Price et al., 2025; Kasket, 2019). Clinicians should be aware of griefbots as emerging phenomenon and be prepared to discuss them non-judgmentally, exploring functions (scaffolding vs. prosthesis), control and impact on restoration orientation. Development of guidelines for responsible integration of generative AI in clinical thanatology, as proposed by emerging frameworks, is needed.

For designers and platforms, there is a need for responsible design that goes beyond engagement. Hollanek & Nowaczyk-Basińska (2024) propose principles including: opt-in consent by default, with clear distinction between consent to archiving vs. consent to generative simulation; transparency – bot should clearly identify as AI representation, not the deceased; user control – ability to pause, edit persona, set temporal boundaries and triggers, delete without losing entire archive; sunset clause – option for representation to fade or be archived after period; and minimal data principle. Platform policies should move from binary delete/memorialize to granular, culturally sensitive options. Design should also consider second loss – providing data portability and export options so that years of interaction are not hostage to a single corporation.

For users, there is a need for conscious planning of digital legacy. Kasket (2019), Bassett (2022) and Harbinja (2023) recommend a digital death audit: inventory of accounts, decisions about what should be deleted, preserved or transformed into legacy, selection of legacy contact or digital executor, and clear instructions in will or advance directive. Such planning reduces burden on bereaved and reduces risk of unwanted simulation. Educational campaigns about postmortem privacy options are needed, as most users overestimate legal protections.

In conclusion: First, digital legacy and digital afterlife refer to different levels of phenomenon. Digital legacy concerns static set of data and processes of its encoding, storage and interpretation (Doyle & Brubaker, 2023; Harbinja, 2023). Digital afterlife means persistent and interactive presence generating new content beyond archiving (Öhman & Floridi, 2017; Meitzler et al., 2024; Hollanek & Nowaczyk-Basińska, 2024). Second, social media have changed spaces, rituals and dynamics of mourning. Online mourning is subject to temporal, spatial and social expansion (Brubaker et al., 2013) and takes form of platform vernacular (Gibbs et al., 2015). Platforms enable maintaining bonds in forms described by Price et al. (2025) as broadcast grief, immortalized in tech, reachable entity, collective grief and revolutionised grief. Third, psychological significance should be considered through lens of continuing bonds theory (Klass et al., 1996) and Dual Process Model (Stroebe & Schut, 1999). Internalized bonds are associated with better adaptation, externalized with risk of complicated grief. The proposed typology of four forms – passive, active one-way, interactive, communal – may serve future research and clinical practice, with attention to habits of intimacy and affective scaffolding. Fourth, AI introduces shift from passive storage to active simulation of presence. Griefbots, deadbots and postmortem avatars offer new tools for maintaining habits of intimacy (Krueger & Osler, 2022), but create interactive presence beyond memory that can distort biography and collective memory (Meitzler et al., 2024; Morse, 2023) and disrupt lived temporality of mourning (Stendera, 2025; Fabry & Alfano, 2024). A distinction should be made between concept of Generative Ghosts (Morris & Brubaker, 2024) and empirical research on AI Afterlife as legacy (Lei et al., 2025). Fifth, technology development raises ethical challenges that are central, not peripheral: lack of consent, violation of postmortem privacy, authenticity and hallucinations, commercialization within political economy of digital death (Öhman & Floridi, 2017; Harbinja, 2023; Hollanek & Nowaczyk-Basińska, 2024), plus autonomy costs. The scale estimated at 1.4 to 4.9 billion profiles by 2100 (Öhman & Watson, 2019) makes these infrastructural challenges requiring regulation at EU level and beyond. Understanding digital afterlife is no longer optional for thanatology, psychology, HCI or ethics – it is central to how contemporary societies remember, mourn and imagine persistence.

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