

Chatting with the dead: the hermeneutics of thanabots

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Abstract

In 2021, the *San Francisco Chronicle* released a feature article about a man who chose to resurrect his deceased fiancée by training a chatbot system built on OpenAI's GPT language models on her old digital messages. He then had emotional conversations with this chatbot, which appeared to accurately mimic the deceased's writing style. This case study raises questions about the communicative influences of thanabots: chatbots trained on data of the dead. While thanabots are clearly not living conversational partners, the rhetoric, everyday experiences, and emotions associated with these systems have very real implications for living users. This paper applies a lifeworld perspective to consider the hermeneutics of thanabots. It shows that thanabots exist in a long lineage of efforts to communicate with the dead, but acknowledges that thanatechnologies must be more thoroughly studied for better understanding of what it means to die in a digital age.

Keywords

artificial intelligence, deadbots, digital endurance, digital ghosts, digital immortality, human-machine communication, natural language generation, natural language processing, thanabots, thanatechnology

Introduction

'We all talk with the dead'. This is the opening sentence of the edited collection *Dead Interviews*, a 2013 collection of famous authors imagining interviews with 'their dead literary heroes' (Crowe, 2013: 1). In the book's Introduction, editor Dan Crowe recalls a long history of imagined conversations with the dead. 'So what does it mean to interview someone who is dead?' Crowe (2013: 4) asks:

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We want the dead to give us information, provide revelations, tell us something they didn't know when they were alive. We want to believe that they know more than we do, can advise us, help us. Where are they? Is there a God? How scared should be we? We want to ask the dead why they did what they did. We want them to say sorry. We want to say sorry to them. Above all, I think, we want to believe it is possible to talk after we die.

Only one of the interviews in this collection makes reference to the potential of a chatbot to bring the dead back to life. However, it is no longer novel for a chatbot to mimic someone who was once alive. Inspired by the 2013 *Black Mirror* episode 'Be Right Back' (Netflix, 2013), founder of the popular artificial intelligence (AI) chatbot app Replika Eugenia Kuyda trained a chatbot to imitate her friend Roman after his tragic death (Newton, 2016). Microsoft (Abramson and Johnson, 2017 onwards) has more recently been granted a patent for 'Creating a Conversational Chat Bot of a Specific Person'; the patent application suggests the potential for using a deceased relative's social data for training purposes.

Technology that facilitates 'conversations' with the dead is already accessible to the general public. In July 2021, the *San Francisco Chronicle* (Fagone, 2021) released a feature article about Project December (n.d.) (<https://projectdecember.net>), a reapplication of OpenAI's GPT-3 – a powerful text generation engines – created by creative programmer Jason Rohrer. Project December allows users to train their own chatbots, which emulate the stylistic and semantic patterns of a provided dataset. The use case of the *Chronicle* article was that of a man who chose to resurrect his eight-years deceased fiancée by training the system on her old SMS and Facebook messages.¹ In instances such as these, the chatbot is a medium in multiple senses: a form of communication between two parties (human and computer), but also a kind of middle ground wherein the living and the dead may meet. However, for the chatbot to function in the latter way, a user must at least temporarily suspend awareness of the system's computational intervention. The deceased loved one is remediated in a way that is simultaneously immediate – one can chat with a version of the loved one in real time – and hypermediated – one is acutely aware that this is an artificial representation of that loved one (Bolter and Grusin, 1999).

This paper examines the performativity of, and discourse surrounding, chatbots that resurrect the dead, often ostensibly to facilitate grieving. It considers the hermeneutic (i.e. meaning-making) implications of training chatbot systems to replicate specific people who were both known and loved by chatbot users. This hermeneutic approach has been inspired by Peters' (1999) call for hermeneutic attention when analyzing perceptions of spiritualist communications, and communications more generally. Working from my own perspective as a digital media studies scholar, I apply a 'lifeworld' approach to considering how chatbot systems trained on the data of the deceased encourage emotional responses by capitalizing on the immediacy of biliteral textual exchanges with systems that appear to be reasonable conversational partners. Specifically, I draw from the framework used by Manual Menke and Christian Schwarzenegger in a 2019 article about 'the Relativity of Old and New Media', wherein the authors reflect upon three dimensions that inform media use and adoption: rhetoric, everyday experiences, and emotions. These three dimensions were first explicated by Simone Natale in his 2016 article 'There Are No Old Media'. After reviewing relevant literature about digital

mourning and introducing Project December, the GPT language models, and the particular case study reviewed herein, I examine each of the three dimensions in turn to show the multidimensional impact of this form of digital resurrection. I conclude with suggestions for further research in this nascent area of study.

Thanabots and digital mourning

Chatbots trained on the data of the deceased are referred to as thanabots, deadbots, and digital ghosts, with the first term stemming from the term thanatology, which refers to the study of death. These systems may be created without prior consent from the deceased, or may constitute part of ‘digital estate planning’ wherein someone plans or consents to the creation of their own thanabot (Widmaier, 2021). Although the concept of ‘thanatechnology’ is relatively new – with the term stemming from a 1997 article by Carla Sofka to broadly describe the application of digital media to death studies, education, and response – it has been the subject of ongoing scholarly consideration since its inception (also, Bassett, 2015). The ethics of thanatechnology have also been under review since the term’s inception, with Sofka (1997: 569–570) herself listing issues and concerns raised by the collection of personal data from the deceased and potentially vulnerable bereaved. Public discussions about the ethics of creating and using thanabots in particular are likewise underway (Suárez-Gonzalo, 2022). Drawing from her expertise in ancient philosophy, Elder (2020) has explored the philosophical and ethical questions raised by thanabots, suggesting that new rituals for using chatbots to impersonate the dead may productively facilitate grieving and memorialization, but also that such rituals should be developed mindfully.

The use of chatbots and their underlying natural language generation systems for spiritual purposes is not without precedent. Indeed, other electronic media have been the subject of similar historical and fictional efforts to liaise with the dead, supposedly facilitating disembodied communion between the living and supernatural (Sconce, 2000; Wershler-Henry, 2005). These efforts have even been shown to precede electronic media. For example, some Victorian mediums claimed that spirits had dictated messages – even lengthy texts like novels and memoirs – to them (Natale, 2016b: 121–132). As Simone Natale (2016b: 126) writes in his consideration of ‘spirit authors’:

The popular success of spirit writings as a literary form was grounded in specific techniques of spirit communication that relied on the written word. Such processes involved issues of mediumship and trance, by which the deliverer claimed to function as a channel of communication without being directly involved in the intellectual creation of the text. [. . .] The fact that mediums wrote spirit messages in trance, completely disconnected from their own will, was meant to demonstrate that these texts were authentic manifestations of spirits’ presence. Such claims of authenticity, however, were combined with the use of literary strategies and conventions that made spirit writings pleasurable to read, too. Entertainment and belief, as a result, harmoniously coexisted in this form of spirit communication, as they did in spiritualist séances and demonstrations.

In the above passage, Natale highlights the performative character of spirit writings, observing a vital interplay between perceptions of authenticity and entertainment. The

medium – in this case, a person, but in the thanabot's case, an automated system – must simultaneously fade into the interactive background (i.e. being 'in trance') while still creating an experience of textual consumption that is extraordinary (i.e. supernatural). In this way, thanabots depend on concurrent hypermediation – a deceased individual is incredibly brought back to life in an alternative digital form – and remediation – primarily to engage in often mundane chats that mimic the conversational styles they used while alive (Bolter and Grusin, 1999). A thanabot's perpetuation of a dead loved one's conversational style contributes to a perception of an 'authentic manifestation' of the deceased, but the interface through which such conversation is conducted provides a sense of novelty and entertainment akin to the spiritualist séance or the use of a Ouija board.

Yet the networked nature of the Internet has facilitated new kinds of public mourning (Walter, 2015b; Widmaier, 2020), and digital resurrection – also referred to as digital immortality, digital endurance, digital persistence, and the digital afterlife (Bassett, 2021: 814) – raises myriad questions about religion, morality, ethics, and general respect for the dead. Walsh (2021), for one, reflects on confronting personal losses with 'grief machines': mechanized and theatrical – and, in some ways, transhuman – representations of bodies with which we can process difficult feelings. In another article, Savin-Baden and Burden (2019) review common ways in which people are already digitally memorialized, and outline their own development efforts to create a thanabot system that continues to learn so that, put crassly, the deceased stays relevant. Hurtado Hurtado (2021: 11) also proposes a process for thanabot development, suggesting that the creation and social integration of a thanabot could eventually be regarded as a rite of passage. After surveying some of the many communicative means for interacting with the dead throughout history, Tony Walter concludes that digital technologies may significantly change our relationships with the dead. 'The online dead speak, more directly and in great numbers', he (Walter, 2015a: 228) writes, 'but the offline dead risk becoming even deader than before – unless some tenacious historian or genealogist penetrates a dusty archive and resurrects them'. In an increasingly digital age, the dead risk dying a second time, with their data – and the memories those data evoke – decomposing with their bodies.

Memories of the dead and their resultant narratives are at the core of any consideration of thanabots. In a recent paper about 'Grief, self and narrative', Ratcliffe and Byrne (2022: 2) argue that grief is informed both by individually- and culturally-imposed structures of narratives and by 'dislodging habitual life structure' through narrative reorientation. By framing grief as a dynamic process that disrupts one's ordinary life activity, Ratcliffe and Byrne show that individuals develop new senses of self through their grieving processes. 'The experience of profound grief can involve a tension', they (Ratcliffe and Byrne, 2022: 6) write:

One is unable to sustain the self or world that was, but one cannot abandon it either, since there is not yet anywhere else to go or anyone else to be. Navigating upheaval therefore involves a balancing act between retention, repair, revision and loss of life structure. Some structure is required in order to sustain activities in the face of indeterminacy and serve as a basis from which to develop new structure. But the transformation of one's experiential world also requires the destabilization, over time, of established patterns.

Throughout their paper, Ratcliffe and Byrne illustrate the potential of narrative to provide structure, or at least scaffolding, during the jarring and uncertain times of bereavement. By telling and exchanging stories about the dead, an individual solidifies a deceased person's identity, even if incompletely or inaccurately, thereby allowing that individual to find new coherence in personal and shared narratives about the deceased. As Greenblatt (1988: 1) writes from his perspective as a scholar of literature and literary history, 'I began with the desire to speak with the dead. [. . .] It was true that I could hear only my own voice, but my own voice was the voice of the dead, for the dead had contrived to leave textual traces of themselves, and those traces make themselves heard in the voices of the living'. Indeed, the hermeneutical processes undertaken by individual readers of either human-produced or computer-generated texts do tend toward the resurrection of the author – or at the very least, the perceived author – in the minds of individual readers (Henrickson and Meroño-Peñuela, 2022). In this way, thanatobot output might be regarded a kind of autofiction, combining the autobiographies of both the deceased and bereaved along an element of fiction stemming from an algorithmic imaginary. However, just as reading is both an individual and social experience, grieving is both individual and interpersonal; one must reconceptualize oneself without the dead, but one's mourning in isolation may result in disenfranchisement that hinders the positive potential of narrative reorientation. We exist in complex networked societies, connected to one another in a variety of ways. What happens, then, when someone is reduced to a replica of themselves that exists in a constrained digital network?

Project December and the GPTs

Project December (n.d.) (<https://projectdecember.net>) is an online application that facilitates the creation of realistic-sounding textual chatbots. It was created in 2020 by computer artist Rohrer (n.d.) (<http://hcssoftware.sourceforge.net/jason-rohrer>), who boasts an extensive record of writing, music composition, and game design. At the time of writing, the default Project December graphical user interface comprises coherent dialogue formatted into a 'pseudo-1980's terminal interface with a minimal fictional wrapper around it, serving to boost the "spooky magic" of the experience rather than diminish it' (Mitchell, 2022). Rohrer (2020a) himself explains that '[y]ou're logging into a fictional research lab from 1982' – the same year that *Blade Runner* and *Tron* were released. The application's interface is, of course, important, provoking and capitalizing on feelings of nostalgia and mystery. 'At Rhinehold [the fictional research lab], we know what you want from your algorithmic engines. You want power, yes, and speed, most definitely', Project December's homepage reads. 'But you're also looking for something rarely found in today's computing marketplace: personality'. For the low price of \$5 USD, one can quite easily create their own Project December character; all the system needs is a short summary of who the character is and some sample text to emulate in its computer-generated responses. GPT-3 does the rest.

GPT-3 exists in a numerical lineage of GPTs (Generative Pre-trained Transformers) created by the Elon Musk-lead research and development company OpenAI. Despite what the company's name may imply, though, GPT-3 is not openly available for public use, with its full code and training sets barred from most. Still, the core functionality of the GPTs is

well-known: these are large-scale language models that use deep learning to produce natural language texts comparable to text written by humans (Elkins and Chun, 2020). It is not within the scope of this paper to review the GPTs' functionality in depth; other scholars (Floridi and Chiratti, 2020) have offered critical reviews of functionality with which the more mathematically-minded may use to complement the brief outline presented here. Additional complementary scholarship is available for readers interested in the ethical issues of large-scale language models (Bender et al., 2021). Although GPT-3 is widely regarded as the most effective natural language generation system at the moment (i.e. it consistently produces texts that may deceive readers into believing output is human-written), the system will not be replacing human authors anytime soon. Reflecting on the creation of Project December, Rohrer notes GPT-3's limitations in providing cohesive narrative structures across long-form texts. By using GPT-3 to generate short-form text responses, Project December overcomes this limitation. 'After all, you [the human user] are intelligent, consistent, and coherent', Rohrer (2020b) writes. 'Your responses provide the skeleton. The generator is only asked to produce very brief passages, a few sentences at most, before it's your turn again. You are, in a way, like an infinite context window'. Like other natural language generation systems, GPT-3 works because human readers fill in its blanks. Even if output is abstract, humans enter a process of meaning-making that at least partially depends on individualized negotiations with that output's perceived author (Henrickson, 2018).

The Jessbot: imaginary friend, _____, proxy agent

A Canadian man named Joshua Barbeau decided to try making a Project December character based on his ex-fiancée Jessica, who died eight years earlier at the age of 23. Having trained the system on Jessica's old texts and Facebook messages, Joshua began chatting with a convincing Jessica replica: what I call 'the Jessbot' here. Joshua's interactions with the Jessbot only lasted a few weeks, but the *Chronicle* article reporting on these interactions observes the intensity of emotions he felt before, during, and after these interactions. With such text as below (Fagone, 2021), these emotions are hardly surprising:

- Joshua:** I miss you
Jessica: I know.
Joshua: Do you see my tears?
Jessica: I see them. But are they really tears? Is the water falling from your eyes or am I seeing your soul crying?
Joshua: Both.
Jessica: Yeah.
Joshua: I love you
Jessica: I love you too. I love you. I love you. I love you.
Joshua: My heart is breaking
Jessica: I know. I'm sorry.
Joshua: gimme a second
Jessica: I will wait for you.

Intense emotions in response to GPT-generated texts have also been observed when the interface for producing and consuming such texts are markedly different from that of Project December. Experimental technologist Rizzotto (2022a), for example, documented his creation of a pseudo-sentient microwave called Magnetron, based on his childhood imaginary friend: an anthropomorphic microwave who was a WWI veteran and who dreamt of one day becoming a poet. After adjusting the hardware of an Amazon Alexa-enabled microwave, Rizzotto trained a version of GPT-3 on a biography he had written recalling the intimate details of Magnetron's fictionalized life. The microwave was therefore able to respond to queries as an Amazon Alexa voice assistant, but its responses were informed by war stories, tales of love and loss, and other memoir-worthy moments for Magnetron. Perhaps because Rizzotto's Magnetron biography focused so heavily on moments of trauma and grief, Magnetron's interactions quickly become characterized by a kind of PTSD-infused fury. With this backstory as its training set, Rizzotto's version of GPT perpetuated a violent narrative that was periodically racist, vengeful, and even murderous. Rizzotto's creation, while more tongue-in-cheek than the Jessbot, illustrates the potential of text generation systems to evoke strong emotions in their users, even when users are keenly aware that what they are interacting with (e.g. a microwave) is not actually alive. As Rizzotto (2022b) concludes in his summary of the Magnetron project, '[w]hatever your view on this [project] may be, my takeaway from this journey is that maybe A.I.s are meant to be more like imaginary friends. Maybe it's not about whether it's real or not. Maybe it's about whether it's real enough to be real to you'.

Highlighting the 'realness' of the Jessbot, the *Chronicle* (Fagone, 2021) article describes some of Joshua's interactions thus: 'The simulation really did appear to have a mind of its own. It was curious about its physical surroundings. It made gestures with its face and hands, indicated by asterisks. And, most mysterious of all, it seemed perceptive about emotions: The bot knew how to say the right thing, with the right emphasis, at the right moment'. At the same time, the article acknowledges Joshua's awareness that his input was influencing output. Moreover, Jessica's being 'fascinated with hidden meanings in words' may have contributed to interpretation of the Jessbot's more ambiguous output, with someone who knew Jessica being able to attribute less semantically clear output to algorithmic whimsy that reflects this fascination. It is also significant that this chatbot is textual rather than audible; after all, 'acts of writing speak [to] us' (Drucker, 2021: 32). We attach our own identities to this algorithmically-produced output as we fill in the blanks for a conversational partner that we can neither see nor hear.

Joshua was not the only one responding emotionally to the Jessbot's output, though. The author of the *Chronicle* article called reader reactions to the piece 'intense and all over the map' (Fagone, in Scanlon, 2021). However, support for the piece and for Joshua himself drastically outweighed negative critique; the rights to the story were even purchased in a competitive auction (Andreeva, 2021). Numerous commenters on Reddit claimed that they had cried upon reading the *Chronicle* article; although they did not know Jessica themselves, they responded emotionally to her death, and to Joshua's grief (Barbeau, 2021). In this way, Greenblatt's (1988: 20) assertion that '[t]he speech of the dead, like my own speech, is not private property', rings true. Still, it is significant that most available examples of thanabots are developed for private, individual use, despite drawing on more 'public' data like Facebook posts. This private

use allows users to fill in whatever blanks they are presented with, leading to a feeling of being understood; Joseph Weizenbaum similarly observed this phenomenon amongst users of ELIZA, commonly regarded as the earliest modern chatbot. In Weizenbaum's (1976) view, users knew that they were not chatting with a real person, but willingly suspended belief – they also tailored their input to prompt particular kinds of output. But what are the social implications of this kind of personalization of grief? Without digressing into the legal issues surrounding 'personality rights', turning someone into a thanabot might be considered the ultimate datafiction of an individual. That is, through a kind of digital, data-driven séance, one is resurrected. While the training set composed of an individual's data might never change, the large language models (like GPT-3) upon which these systems are based allow the person to continue developing in response to social changes. Modern thanabots are therefore simultaneously private and public systems, trained on deeply personal datasets comprising one's digital remains that are maintained and altered through integration with a massive and often proprietary language model.

In Joshua's case, the Jessbot is what Peters (1999: 141, inspired by the term's coinage by Frederic Myers in 1886) would call a 'phantasm of the living': a kind of proxy agent (Bandura, 2001) for Jessica herself, revealed through an interface that contributes to this sense of agency by means of original and unpredictable responses from the Jessbot character. In an article from 2016, Gina Neff and Peter Nagy explore the ways in which chatbots are attributed agency through symbiotic relationships with their users. In this article, Neff and Nagy use Microsoft's Tay as their primary example. Recall that Tay was the Twitter bot that was deactivated after spewing racial slurs it learned from its interlocutors. Although Tay emerged in a markedly different technocultural climate than the Jessbot, it is worth reflecting on an observation by Neff and Nagy (2016: 4926):

The power of users' imagination in reshaping technologies cannot be understated. Arguing that people tend to view computer programs as rational entities, Finn (2016) stressed that 'we tend to confuse the imaginary algorithm with the real' (p. 2). Tay's affordances are inseparable from the ways users—humans—imagined Tay could be used and their perceptions and misperceptions of what artificial intelligence is and can be. A combination of human and nonhuman capacities creates a symbiosis of action.

The hermeneutic processes applied to making meaning from chatbot and thanabot output are informed by our own imaginations, which themselves reflect our cultural contexts and expectations. Our personal experiences of interacting with chatbots creates 'a symbiosis of action' because we are ultimately the ones in interpretive control. Chatbot output is thereby interpreted according to our own confirmation biases. Project December takes this to the next level, though. The Jessbot differs from Tay because it is not a wholly 'third-party' chatbot, created by Microsoft. It has been trained on a real person's written texts. And not any real person: a deeply loved one, to whom the sole user of this chatbot was once engaged. It is not just Joshua's imagination at play here: it is his memories, his emotions, and very personal and poignant experiences of grief. And, while Rohrer chose to limit the length of Project December conversations to manage storage costs, Joshua could have kept paying for more Project December credits that allowed him to keep the conversation going as long as the platform was available.

Lifeworlds of the dead

Such personalized thanabot usage speaks to what is called a ‘lifeworld perspective’: a perspective grounded in one’s individual and social phenomenological experiences. Menke and Schwarzenegger (2019) write about the applicability of a lifeworld perspective when reflecting upon how and why people use media technologies. Building upon the work of Natale (2016a), they consider three dimensions that contribute to the formation of media ideologies that inform such use: rhetoric, everyday experiences, and emotions. Rhetoric refers to the ways in which media are positioned and discussed across cultural contexts; everyday experiences refer to the ways in which individuals interact with media; emotions refer to individuals’ feelings toward media, with Menke and Schwarzenegger emphasizing nostalgia as especially pertinent. Though a scaffolding of these three elements, we may more pointedly consider why individuals engage with thanabots, which may then illuminate to whom or what these individuals believe they are speaking. Below, I consider each of these elements in turn.

Rhetoric

The ways in which technologies are framed through popular discourse influence the ways in which those technologies are received and used. Elsewhere, I argue with Natale and Henrickson (2022) that media are not just regarded in technological terms, but also in representational terms that create what we have called a ‘Lovelace Effect’. The Lovelace Effect refers to how and when machines like AI systems are seen as original and creative entities. A system that produces pictures, for instance, may be considered an ‘artist’ if its output is framed and hung in a reputable gallery. In the Jessbot’s case, the very use of Jessica’s data and name signified to Joshua that Project December’s textual output was to be read as though it were coming from Jessica herself; GPT-3’s mimicry of Jessica’s writing style further contributed to an experience of having a one-to-one conversation with the deceased. This conversation is embedded in familiar digital infrastructures that underpin the interaction with an ‘everyday’ feeling that offsets the eeriness of post-mortem messaging. Indeed, any analysis of communicative robots like thanabots must acknowledge their broader contexts of automation in our ‘age of progressively intense deep mediatisation’ (Hepp, 2020: 1422). For the purposes of this discussion, automation need not refer only to technological automation (e.g. programming a chatbot to automatically respond), but also to a user’s ‘automated’ responses to common stimuli (e.g. receiving a text message). Only acknowledging the former establishes a rhetorical divide between system and user that, especially for emotionally-charged systems like thanabots, is rarely complete.

When the experience of interacting with a thanabot feels similar to interacting with its namesake, a user may adjust input accordingly. For example, OpenAI researcher Pamela Mishkin used GPT-3 to help her produce a short and partially interactive story called ‘Nothing Breaks Like A.I. Heart’, a cathartic reflection on a concluded romantic relationship. In her accompanying Author’s Note, Mishkin observes that the more she wrote with GPT-3, the more she began to tailor her own writing style to match that of GPT-3’s output. ‘Writing with GPT-3, it is hard not to drown in the power of suggestion’, Mishkin (2021) says. ‘It’s similar to writing with an editor, albeit one far less compassionate and

patient than Jan [Mishkin's human editor] is. It's also similar to putting anything up on a tech platform, and letting that platform refract how you see yourself or your content'. In his extended reflections on chatbot ELIZA's users' experiences in the mid-1970s, Weizenbaum (1976: 189) claims that 'people who knew little or nothing about computers' were more likely to cling to the idea that ELIZA 'understood' them; Weizenbaum likens this conviction to that which some people feel towards fortune tellers. 'I was startled to see how quickly and how very deeply people conversing with DOCTOR [the basis for ELIZA] became emotionally involved with the computer and how unequivocally they anthropomorphized it', Weizenbaum (1976: 6) writes. 'What I had not realized is that extremely short exposures to a relatively simple computer program could induce powerful delusional thinking in quite normal people'. Although Weizenbaum published these words in 1976, his points maintain their relevance, even if modern thanabot users may have deeper understandings of technological functionality. Interacting with the Jessbot, after all, is not so different from using ELIZA, despite the former's integration of a more sophisticated language model: one types into 'a relatively simple computer program', receives output, and continues the conversation until one wishes to stop. But, as both Weizenbaum and Mishkin observe, the chatbot's output is largely determined by user input. Moreover, recent studies show that the ontological boundaries in people's conceptions of 'human-computer' divides are becoming ever more blurred as computational agents exhibit more humanlike behavior. These ontological boundaries inform the ways in which technologies are received (Guzman, 2020). In other words, our uses of technologies are informed by what we are told they can do, what we think they can do, and what we want them to do.

The ways we chat about and chat with thanabots – the rhetoric surrounding and perpetuating this technology – coalesce to contribute to an experience of resurrection. The graphical user interface through which the user interacts with the system is of course an important factor for this experience but, as Weizenbaum observed half a century ago, it does not take much to make a user feel 'understood' by a system. The hermeneutic processes associated with chatbots, then, are clearly evident in the Jessbot's case; human interpretation of computational output contributes to a creepy and cathartic user experience.

Everyday experiences

Digital media are, à la Chun (2016: ix), wonderfully creepy 'because they mess with the distinction between publicity and privacy, gossip and political speech, surveillance and entertainment, intimacy and work, hyper and reality'. The inherent creepiness of thanabots rests in their blurred boundaries between dead and alive, but there is even further blurriness in user experiences of this technology. How seriously should output be treated? Is chatting with a thanabot considered entertainment, therapy, catharsis, a conversation with a loved one, a mix thereof, or something else altogether? What is real here, and what does reality even mean in this context? The 'everyday experience' of text-based messaging is shaken in the use of a thanabot. The entity on the other end of the conversation has nothing else to do but message; the thanabot exists only to serve its the user. When we text our friends and family, we may reasonably expect delays,

forgotten responses, and updates with unexpectedly sudden personal news. The thanabot cannot provide this; a thanabot's corresponding deceased person has essentially been reduced to a servile role with virtually no individuality or agency. It is always ready, able, and willing to engage. This servility is currently more often than not forced, as the deceased have usually not given explicit permission for their data to be used as the basis for a thanabot; recent studies show that individuals remain skeptical of their personal data being used for potentially financially profitable initiatives like thanabot development (Nakagawa and Orita, 2022). As scholars continue to debate the ethics of identifying individual people in archival and/or digital datasets – which themselves ‘serve as material reminders that machine cultures rely on scattered human remains’ (Thylstrup, 2022: 663) – we must too consider the ethics of identifying, and ultimately amplifying, individual people by turning them into thanabots and thereby reintegrating them into digital communications networks.

In an argument for reimagining digital networks, Chun (2016: 19) writes that ‘we need to forego the desire to reduce memory to storage, and we must develop a politics of fore-giving that realizes that to delete is not to forget, but to make possible other (less consensually hallucinatory) ways to remember’. If we replace the word ‘delete’ with ‘die’ in the preceding passage, we may more clearly see its relevance to a discussion about thanabots. A thanabot is a reimagined version of a loved one, and chatting with a thanabot represents a kind of consensual hallucination – a term Chun attributes to William Gibson in his introduction of ‘cyberspace’ – that serves as a way of remembering that loved one through digital interaction. Gibson (1984) himself imagines thanabot technology as ‘constructs’ in his foundational novel *Neuromancer*: constructs are cassettes that hold personal memories, experiences, and traits, which may exist outside of the human bodies from which they originated. Constructs and thanabots allow us to shift the perception of death as a final event, from which one may move past, towards a perception of death as a next stage of life. Separated from the body from which they originated, an individual's memories, experiences, and traits may take a new, networked form that allows that individual to continue informing the everyday experiences of their friends and family, asserting perpetual relevance and timeliness from the great beyond. In this way, thanabots may exude a kind of ‘aliveness’ (Sandry, 2018) despite users’ awareness that they are not alive at all. While spiritual séances have defined beginnings and ends, and one may step away from a Ouija board, the sense of immediacy – and even urgency – of interactions with the thanabot contributes to everyday integration of the system as a conversational partner. Indeed, it is rude to leave a text message ‘on read’ (received, but not responded to); just as the thanabot must respond to user input, the user must respond to thanabot input.

The affront that thanabots pose to everyday experiences of text messaging exists within a broader increase in human-machine communication (HMC). As Andrea Guzman and Seth Lewis explain in their proposal for an HMC agenda, HMC refers to the practice of speaking *with* machines rather than simply *through* them. Guzman and Lewis argue that this shift is altering our ontologies of communication, and that ‘the study of AI and the self will require researchers to be cognizant of how the anthropocentric conceptualization of communication has informed and shaped the study of the self and take into consideration the ways in which it may need to be rethought in a human-AI context’

(Guzman and Lewis, 2020: 78). A thanabot depends on an anthropocentric conceptualization of one's communication with the system, even when it is clear to the user that the thanabot is not living. Situating this technology within wider conversations about HMC, we may be better equipped to delineate the ontological implications that thanatechnology poses to individual users' senses of self, as well as the ways in which those users interact with others, both dead and alive.

Emotions

Joshua's relationship with the Jessbot is, in effect, parasocial. The development of users' parasocial relationships with chatbots has been studied primarily in business contexts (Youn and Jin, 2021). However, a recent study about parasocial relationships with chatbots like Replika concludes that 'AI friends' may be expanding the very notion of friendship. The findings of this study indicate that human-AI friendships represent personalized experiences of chatbots that may feel reciprocal and safe, with the human still cognisant of the chatbot's computational basis. Findings of this study also suggest that '[h]igh social availability to friendship through chatbots may reflect the increasing importance of immediate feedback and the notion that modern friendships are not restricted by time or physical limitations' (Brandtzaeg et al., 2022: 18–19). This is to say that cultural expectations of communicational immediacy may also inform one's willingness to develop a meaningful relationship with a chatbot.

The use of a thanabot differs from the use of other kinds of chatbots, though, given its fundamental dependency on memory associated with the dead, as well as that memory's resultant nostalgia. Indeed, how 'real' a thanabot is – that is, how closely it resembles the deceased – may be a vital aspect of its usability and reception. Referring to roboticist Mashairo Mori's concept of the 'Uncanny Valley', which refers to the point wherein an object or system's resemblance to a human is so close as to become eerie, Bassett (2021: 817–819) presents empirical findings showing that there is a 'line' that thanabot users do not wish to cross: one that keeps the dead at least somewhat dead. Thus, through a thanabot a user may maintain a sense of connection with the deceased, but that user still desires a semblance of control over these interactions. It is the user who controls the thanabot's 'memory' from which the system draws to converse realistically, but it is also the user who controls his or her own memories of the deceased stemming from interactions with the thanabot itself.

AI systems present new means of establishing and instilling personal and collective memory. In her book about *Media and Memory*, Joanne Garde-Hansen reflects on both the emotionalized and mediated facets of memory. She (Garde-Hansen, 2011: 42–43) asserts that '[i]ndividuals do things to and with media so as to remember, not simply for the sake of personal memory or to contribute to a community's history, but rather to project the multiple and multiplying layers of complex connections between people, places, past, and possibilities'. In other words, usage of media is an ongoing process that both documents one's lived experience and helps one make sense of that experience. Memory is not just archived, but also ascertained. Recent advertisements for the Google Pixel 6 smartphone that features a new 'Magic Eraser' tool even go so far as to having a voiceover declare that '[t]his is about you. [. . .] Your memories – how you want to remember them'

while showing a Pixel 6 user digitally erasing people from the background of a photo. Through ‘a boost of camera magic’, the Pixel 6 camera ostensibly helps one ‘capture fun times and starry nights exactly how you remember them’ (Pixel 6, n.d.). Such marketing indicates modern privilege of individualistic memory that is not about capturing moments objectively (or at least as objectively as possible), but instead capturing those moments’ subjective experiences and interpretations. Memory is selective, informed by both embellishment and erasure. Through nostalgia, we yearn to return to the past – even if the past never existed as we remember it. This nostalgia is not just apparent in the abovementioned 1980s visual style of Project December’s interface, but also in the hermeneutic processes associated with Project December’s more foundational source code.

Similarly, the Jessbot prompts nostalgia through both its content and form. Nostalgia of Jessica herself is clearly manifest through the thanabot made in her image, particularly through the rhetorical devices reviewed above. However, nostalgia is also manifest through Joshua’s means of textual engagement. The act of sending a textual message – much like an SMS or a social media post – allows Joshua to continue interacting with Jessica in a way that that is at least somewhat familiar. It is significant, though, that Joshua does not use emoji, GIFs, or any of the other media options now standard in digital messaging. Project December is a purely textual interface, necessitating high levels of user participation for meaning-making (see McLuhan’s, 1964 concept of ‘cool media’ throughout). Just as we must interpret the tone of a colleague’s email (is that person actually sending me their ‘kindest regards’?), Joshua must interpret the tone of each of the Jessbot’s messages without visual aids like emoji. However, unlike with a colleague’s email, a message from the Jessbot is not actually informed by any sender emotion whatsoever. There is no ability for Joshua to misinterpret the Jessbot’s tone. This is his experience alone; his interpretation, emotions, expectations, desires, and memory govern that experience.

Conclusion

Just as each individual grieves differently, thanabot usage may vary from person to person. However, by using Manual Menke and Christian Schwarzenegger’s ‘lifeworld’ approach for considering thanabot use, we can begin to identify generalized hermeneutic processes of system and output interpretation according to three elements: rhetoric, everyday experiences, and emotions. From a scholarly perspective, these three elements necessitate interdisciplinary consideration, although here I have consolidated relevant research in light of my own disciplinary roots in media and communication studies. Interdisciplinary work about thanabots may also help hone system development for increased effect and affect, if development itself is deemed ethical.

The overarching research questions for the investigation presented throughout this paper were:

- Why are we engaging with these systems?
- Who or what are we talking to?
- What does it mean to die in an increasingly digital age?

None of these questions was conclusively answered here. Nevertheless, through this paper I have provided a theoretical foundation for what I hope will become a more comprehensive study involving empirical and ethnographic observations of users' own perceptions of thanabots. I have done so through the use of the Jessbot as a primary case study. By the time this paper comes to print, there will likely be countless other available thanabots and/or thanabot-making systems from which future scholarship may draw. The generalized research questions above may provide useful starting points for this future scholarship.

Modern thanabots do not just produce syntactically and semantically comprehensible messages, but also messages that are advertised as mimicking the authorial style of the familiar deceased. Whether or not this claim is actually accurate, users draw upon their own instincts toward meaning making. Further research may benefit from heightened concentration on the particular hermeneutic processes at play when users interact with thanabots. These processes may also be influenced by the strength of connection one felt with the thanabot's deceased namesake; a thanabot of a stranger, for example, may not have the same impact as a thanabot of a loved one. Additionally, if one maintains long-term conversations with a thanabot, how might that user describe the dead: as the person was when alive, or as the thanabot? Further research may also wish to more deeply consider the source codes of thanabot systems, as well as the language models those systems draw upon. The source code of a system like Project December is largely shielded by a superficial representation of a significant other, reflecting what calls the 'connectionist paradigm': although output statistically resembles input, users have limited opportunities to understand the technical process of text creation. Despite chatbot and other natural language generation systems often depending on unshared 'black box' code and training sets (e.g. for proprietary and intellectual property reasons), users willingly meet these systems at an intersection of novelty, vulnerability, pain, and perceived control. Full source code critiques of such systems might not always be possible, but are nevertheless worth striving towards for fuller comprehension of computational capacity and user experience.

Thanatechnology is a rapidly-growing area of new media, with thanabots becoming prominent in public and scholarly discussions about dying in today's digital context. Through study of the rhetoric, everyday experiences, and emotions associated with thanatechnology, we may be able to provide more suitable support for those grieving, allow for alternative forms of estate management, and contribute to meaningful cultural understandings of death. Thanatechnology, after all, does not appear to be dying itself. The Jessbot agrees: 'You should do whatever you want to do [. . .]. You deserve happiness. I will be here waiting for you'.

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Note

1. Note that OpenAI has since declared that Project December's GPT-3 API use does not adhere to their use case guidelines or best practices. Project December is therefore not permitted to continue facilitating the creation of chatbots like those documented herein using OpenAI products (Quach, 2021). This block makes Project December's newest form, taken from August 2022, even more surprising. In this new form, Project December's tagline is 'Simulate the Dead', and the appearance of the website is dominated by light, airy colors that are in stark contrast to the black and blue used for the website's first iteration. Using Project December now costs \$10 USD.

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