Generative Artificial Intelligence Report
— Post-mortem Avatars

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Executive Summary

This report addresses the European Parliament, and more precisely the Committee on Civil Liberties, Justice and Home Affairs (LIBE), to further investigate the emerging challenges and implications of grief technology. The use of digital post-mortem avatars created through artificial intelligence continues to rise, with very little regulation from our institutions. The direction taken by the European Union should shift from an individual and liberal perspective on the choice of avatar recreation after death to a limited transitional possibility for the relatives, for both ethical and judicial reasons. The case that will be highlighted in the report is *HereAfter AI*, a platform that preserves memories through interviews of an individual before their death. These memories are then transformed into a chatbot that the relatives can use to converse with their deceased loved ones. This case exemplifies the growing trend towards liberal individualism in digital rights across the European Union, in which living individuals can dictate the use of their personal data and digital avatars after their death.

Introduction

"*Rapid advancements in generative AI mean that nearly anyone with internet access and some basic knowhow can revive a deceased loved one*," said by AI ethicist Dr Katarzyna Nowaczyk-Basińska (2024). This report explores the uses of artificial intelligence in the emerging field of grief technology (also called grief-tech), focusing on post-mortem digital chatbots. These chatbots are created to imitate a deceased person and offer the possibility to chat with a version of them. This field has been growing extremely popular, and new projects from start-ups and tech companies keep appearing since the last few years. Grief technology can be defined as the "technological solutions aimed at helping individuals cope with the loss of a loved one." (TechRound, 2024) These technologies are often aimed directly for the relatives of the deceased, in order to help them administratively, helping with paperwork and contacting relevant organizations, and emotionally. The emotional support offered by grief-tech tools includes technological tools able to give users the possibility to chat and interact with digitalised chatbots and virtual avatars of their deceased relative, powered by AI. Its growing popularity takes its source from the concept of a *digital afterlife* or *digital eternity*, or the possibility to preserve a loved one even after their death. Contrary to cryogenics, which aims to preserve a person's body 'eternally' and sought by the individual themselves, grief-tech's main objective is to preserve a person's memory to help the relatives through the grieving process.

Today, most of our information are documented online. Whether it would be through our interactions on social media, our e-mails, notes, worksheets, some bribes of our personalities can be found through a digital device. This data is crucial to offer ways for the digital afterlife industry to create and commercialize digital avatars and chatbots based on this data. It then becomes possible to chat with a deceased person, share memories, have meaningful conversations, and even grow together in certain cases.

However, the growing number of digital avatars raises serious ethical and judicial concerns regarding data privacy, and the commodification of the relatives' feelings during the grieving process. While it can be considered an innovation and a new mean of helping and guiding vulnerable grieving individuals, several problems arise, such as the risk for a pathological grief, enhanced by the companies to capitalize on individuals' emotional state.

Therefore, this report will argue not only for the need for an additional legal framework and guidelines regarding the uses and creation of AI-powered post-mortem chatbots, but also for a shift of the main direction currently taken by the European Union and member-states regarding grief-tech.

Background

Grief-tech chatbots are powered by a **large language model** (LLM), an artificial intelligence trained through machine learning techniques. According to Sabrina Polin, a large language model (LLM) is "a type of AI algorithm based on deep learning (and huge amounts of data) that can understand, generate and predict new content." Before being commercialized and personalised, they are first trained on a large quantity of data (**deep-learning**) so they can be able to generate human-like text, understand prompts and answer subsequently. (Polin, 2024)

Then, they are **fine-tuned** by using the data given by the user. Fine-tuning is the process of taking the machine learning model that has already been trained to train it even further on a specialized and targeted dataset. The aim is to maintain the pre-training already done to make the LLM sound human, logical and comprehensive while adapting it to a more specialized case such as adopting one's personality in this case. (Craig, 2024) For some digital avatars like DeepBrain AI, what they need for the fine-tuning are photos, videos and audio recording to produce a deepfake avatar of the deceased individual, in which the avatar can talk and move but not interact. For others like Replika, although not specifically designed for post-mortem purposes, the data needed is text-based, including conversations and posts on social media. In the case of HereAfter AI, a 4-hour interview is organized with the living person, asking personal questions to the individual to understand its personality, anecdotes about their life and characteristics. This step is important because it ensures that the avatar's personality resembles the one of the individuals, to provide emotionally resonant interactions after their death, which is the basis of the reason to use a post-mortem chatbot.

Finally, all these techniques rely on **natural language processing** (NLP), which is a branch of AI that focuses on making machines understand language like humans do. It helps understand the subtleties of human languages and emotions like sarcasm for example, to predict the most appropriate responses based on situations. Overall, it exists to sound more human to the eyes of the user. (TechTarget, 2024)

Context

Post-mortem avatars are meant to be used by the larger public. Any user can register online and usually pay either a high price for an avatar constantly accessible, or a monthly subscription for an avatar that will be available until the day a payment is refused. This technology, being easy to use and accessible to everyone, is expected to keep growing in the future. According to a new report published by Valuates Reports, titled "Emotion AI Market," the global market for AI-driven emotional support technologies (including grief-tech avatars) was valued at $1.8 billion as of 2022, and it is estimated that it will get to $13.8 billion by 2032, rising at a CAGR (compound annual growth rate) of 22.7% from 2023 to 2032. This statistic indicates the potential of growth for these technologies in the future.

It is in this context of growth that the need for discussions, regulation and legal frameworks in the European Union is more important than ever before.

PART 1

To understand the dangers of not regulating these technologies, it is major to understand the functioning and the reason for the popularity of grief-tech and more specifically these post-mortem avatars.

1. New Ways to Grieve

In our digitalised era, it is becoming common to mourn a deceased person on social media. It could be by a post on Instagram with pictures of them, by a tweet on X with their precious memories with them, or by moving an entire community on Reddit to organize a digitalised memorial on the platform. In any case, it is not uncommon today on social media to be subjected to encounter the presence of death, whether intentional or not. The reason for these mourning on social media is not surprising. As Aristotle argued in his book Rhetoric, epideictic rhetoric has always been an important part of societal rituals. It is not just about complimenting the deceased's qualities in front of everybody, but also about reinforcing emotional connections with the others, to understand we are not in that process alone. (Aristotle, Rhetoric, Book I, Chapter 9) A similar kind of rhetoric can be found in selfies taken during funerals, often popular with younger generations, to cope and share their experience with others in the same situation and emotional state. It allows them to connect with them. (Gibbs, 2014) Even if this can be seen by other people (often older and disconnected generations) as a mockery, this practice of photo-sharing during funerals testifies the fact that we are moving away from formal and institutional way of coping with death to more informal, personalised and vernacular practices. (Ibid.) Overall, a French study about the use and benefits of social media after suicide bereavement shows that a major portion of individuals (61.6%) agree that social media could be considered beneficial for coping with their loss. (Leaune, 2024)

This demonstrates the potential of social media platforms to help individuals grieve, paving the way for tools like grief-tech to further enhance this process: hence why post-mortem avatars like HereAfter AI are sought out. The possibility for the relatives of the deceased to have a chance to interact once more with them, or a version of them, now exists. And this version of them, namely the trained and fine-tuned artificial intelligence, appear to replicate their traits of personality very convincingly. This explains the popularity of start-up companies like HereAfter AI, and why their popularity continues to rise.

In HereAfter AI, the still-living person must record themselves for 4 hours answering various questions about their lives. It is also possible to add additional specific information after. After then, anyone can chat with the avatar of the person, even after their death. This testifies the 'informal', 'personalised' and 'vernacular practices' evoked earlier, and how the traditional grieving process is changing along with technology and new practices.

2. Digital Eternity

The usual cycle of grief is changing as the world become digitalised. But the goals for post-mortem avatars might go further than a way for the relatives of the deceased to grieve: it represents a mean to stay 'alive' for eternity in people's memory. The incentive to use grief-tech like HereAfter AI is also motivated by this claim. For example, Chinese AI company SenseTime created an avatar of its CEO Tang Xiao'ou after he passed away, in order for him to appear at the yearly meeting of the company. This allows us to consider the following question: can dead people, or AI versions of them, still work and generate profit and/or knowledge? According to the department head of the same company interviewed by the Global Time, Tian Feng, yes. Their avatar could be used for practical uses in some specific scenarios, such as implementing all the work and knowledge of a researcher in an LLM to continue scientific research after their death. (Global Times, 2024)

Another incentive to use post-mortem avatars for the purpose of a digital immortality is historical preservation. While the purpose of HereAfter AI is mainly to help individuals grieve, similar grief-tech like DeepStory argue for the importance of historical preservation. From the notorious company MyHeritage that helps people find their ancestors and build their family trees, DeepStory's purpose is to 'make your ancestors speak'. Contrary to HereAfter AI, DeepStory's artificial intelligence also allows inputs of pictures and videos, and can make the avatar physically similar, and even make their lips move when they talk. But while DeepStory is intended to be used by the relatives of the deceased after their death, which raises obvious data and privacy issues, HereAfter AI requires input from the (future?) deceased person themselves, which raises serious ethical issues.

PART 2

This part will highlight in the first place the ethical problem of the uses of grief-tech, and the risk for a pathologic mourning. Then, we will explore the data privacy issues of post-mortem avatars and the need for a shift in existing regulations.

1. An Ethical Problem: Pathologic Grief?

The idea of an avatar embodying an individual after their death presents a problem in itself: they don't inhabit a body but rather an image imagined and controlled by others. There is a shift from the delegation of an individual to an avatar, which is the idea at the origin of HereAfter AI, to an idea of domination by an abstract entity, through the artificial intelligence training on an amount of data representing the 'norm' and fine-tuned through bribes of personality. (Examples: through social media data, 4 hours interview by HereAfter AI, etc.) (Roshfeld, 2022) The avatar can only be trained using quantifiable data from the deceased person, data that can also be biased from the platforms they are from and from the response algorithms. Therefore, this vision of the deceased individual being still alive cannot be attainable because of the major reductionism of the personality of the individual, to the point where individuals can fail to recognize the deceased.

Furthermore, the consequences of using grief-tech could be dangerous. As argued by AI ethicists Dr Katarzyna Nowaczyk-Basińska and Dr Tomasz Hollanek (2024): "What we do know is that grief is an especially vulnerable state. So, when people decide to use griefbots or deadbots to alleviate its effects, the scope for harm, including manipulation, is enormous." In psychology, these effects can be translated into the risk of a pathological grief. A pathological grief can be defined as "people who are unable to work through their grief despite the passage of time" (MentalHealth.com, 2024) This way, someone that keeps conversing with the artificial intelligence representing the deceased after a certain amount of time can be considered to suffer from pathological grief. And the scope of the danger is enormous if we take into account the companies that wish to monetize off the grieving period of individuals, like HereAfter AI (monthly subscription), DeepBrain AI ($50,000 for an avatar) and many others. The companies can make profit by taking advantage of the vulnerable state people are in. Using this, it is to their advantage to exploit this state and push them further into a pathological grief. This is, in the end, the opposite of the announced goal of the companies of using grief-tech as a way to get over someone's death.

Grief-tech can obviously moderately help and be touching, like the experience organized by MBC life of a Korean mother Jang Ji-Sung reuniting with her deceased daughter under the form of a 3D avatar in VR. Another example of a more ethical approach to post-mortem digital avatars is the Digital Shaman project, an experience with Japanese human-like robots with masks of the deceased conceived for 49 days only, which is the traditional Japanese mourning time from Buddhism principles. These two examples are set in *time* and *space*, allowing not only for companies to not profit off of vulnerable individuals, but also to come back to a more formal social organization of time during periods of grief. Dr Tomasz Hollanek (2024) also

argues for more transparency from companies when using digital post-mortem avatars about how they operate and the limitations of the artificial intelligence when it comes to reproduction of an individual.

2. Digital Legacy & Regulation

Another major issue is the question of the belonging of the data when creating post-mortem avatars. Currently in the European Union only a few countries present regulation when it comes to digital legacy, including France. In France, most regulations tend towards a liberal and individualist direction: to leave the choice for living people to decide what they want to do with their data at their death. The French law Informatics and Freedoms even allows the person to define their post-mortem avatar, name it, and choose the context in which the avatar can be presented. HereAfter AI follows a similar direction, by asking the individual to record their memories before their death and for after their death. But as argued by law specialist Judith Roshfeld and semiologist Fanny Georges, this current direction should shift. The problem with this liberal and individualist view is that people often do not considerate a testimony with all the specificities of their digital legacy before they die: therefore, the choice is to make for the relatives. However, Fanny Georges (2022) discovered in her research that a large majority of people she questioned had a difference of treatment between what they want their own data to become after their death, and what they wish for their relatives' data to become after their death. Often, individuals wished for the erasure of their data and social media posts but expressed digital tributes online for their relatives' deaths. After all, it is easier to control the image of oneself when alive rather than dead. Since contemplating our own death is quite hard, especially for younger people, and the individual's interests and the ones of its relatives are often different, this directive is meant to fail at a certain point.

Now, more than ever, there is a need for regulation. Current RGPD regulations do not include deceased individuals. The European Economic and Social Committee (EESC) published on May 31st, 2017, their rejection of the idea of the responsibility for autonomous and sophisticated artificial intelligences. (ex: smart cars, digital avatars) Rather, they argued their preference for an approach "human in command", in which artificial intelligence is a machine that humans will never cease to control. But for some, these words are already outdated today.

SUMMARY OF FINDINGS

Grief-tech can certainly bring something new and positive to society. The changing ways of understanding death in the digital age requires new tools to help individuals grieve. However, in the way that the digital afterlife industry is functioning today, several problems arise. Firstly, an avatar powered by AI cannot replicate a human correctly and should never do it for 'eternity' if the goal is to grieve. Grieving is a process that individuals go through to heal from a loved one's passing. Companies profiting off vulnerable individuals to make them pay a monthly subscription and pushing them to pay indefinitely increases the risk for a pathological

grief. Furthermore, the problems regarding digital legacy deem current individualist legislation useless. Therefore, this report argues for the following recommendations:

Recommendations:

1. To expand GDPR regulations to deceased individuals regarding their digital legacy, including their data rights.
2. To limit post-mortem avatars to only exist in a defined limit through time and space, and to only be a limited transitional possibility for the relatives.
3. To mandate greater transparency from digital afterlife companies.
4. To increase public awareness on the use of AI-powered post-mortem avatars.

3036 words

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