NECROROBOTICS

The Ethics of Personalised Resurrection

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NECROROBOTICS. The Ethics of Personalised Resurrection

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ABSTRACT

Ethical and legal questions of robotic personalisation can be addressed in various ways. While seeking to theorise on ethical issues related to robotic personalisation, this paper proposes the concept of *necrorobotics* in order to target a particular space of personalisation, governed by a variety of norms: death, and the reuse of dead persons data to create robotic agency. Based on recent advancements in what is here labeled as *resurrection technologies*, the paper creates a speculative provocation in order to reflect on ethical implications of using AI-tools to bring back the sounds, textual behaviour and animated imagery of a deceased friend or close relative.

KEYWORDS

necrorobotics, resurrection technologies, personalised resurrection

1 INTRODUCTION

As an effort of robotic personalisation of sorts, Microsoft was recently granted a patent (No. US 10,853,717 B2) on how to develop individual chatbots based on "past or present" friends, relatives or acquaintances. Note the inclusion of "past" individuals, focused on here. In addition, an Amazon executive in June 2022 expressed the idea of enabling Alexa to read bedtime stories in the voice of the deceased "grandma" [9]. Furthermore, there are a number of examples of persons who have built actual chatbots as well as VR renditions based on data from deceased friends or loved ones in order to resurrect them for the sake of mourning or remembrance. This of course goes in parallel with methodological and technological advancements enabling not only text-based "resurrection" in generative AI-models like GPT-3 [2](ChatGPT) but also VALL-E, for sound [23], and DALLE2 or Stable Diffusion for images.

These AI-enabled ways of, in a sense, resurrecting the dead, ask for ethical and normative reflection, given that it is far from established how these practices could or should be guided or governed as these practices develops (for ethical, legal, and social concerns associated with social robots, see [7]). While there is an emerging legal discourse on the "afterlife" of data from individuals that either focuses the digital remains as property or a matter of (postmortem) privacy [1, 8], this specific case is inevitably connected to much longer traditions on how to study and understand remembrance

and the symbolic "being" with the dead [20]. That is, from an ethical point of view, this is not an all new space, albeit charged with a potentially different type of (robotic) agency.

More specifically, under the concept of *necrorobotics*, how can questions of fairness be addressed in this type of robotic personalisation? For example, to what extent should developers of resurrection technologies take into account social, ethical or other considerations in their development? Normatively, who ought be able to make these types of decisions of individual resurrection, and should it preferably be regulated by law? Are there other specific legal or ethical questions that needs to be further developed in terms of necrorobotic governance?

Figure 1: DALL·E prompt: "Humanoid social robot with face-painting in the style of the Mexican Day of the Dead celebrations looking at a sad woman".

2 RESURRECTION TECHNOLOGIES

The personalisation [19] and anthropomorphism in social robotics can be explored in many ways [4]. From a *necrorobotic* perspective, both concepts are of relevance but in the sense that it is a relationship – between a living and a dead person – that is personalised for the one still alive, and it is the robotic presence that is set to mimic or in some sense anthropomorphise a distinct, but dead, person. Under the umbrella of *necrorobotic personalisation*, this paper

focuses both aspects of design and data collection/handling for an ethical and legal reflection. Consequently, the technological and methodological advancements that prompt the main argument of this brief paper relates to aspects of machine learning that by some are referred to as generative AI, along with large corporations' interest in developing technology that enables the creation of (ro)bots based on large sets of data from specific individuals.

2.1 Patented Resurrection

For example, the mentioned Microsoft patent (No. US 10,853,717 B2) was received on 1 December 2020 by two engineers at the company. It describes how rich sets of "social data" can be used to create "a conversational chat bot of a specific person…". Importantly, the patent describes, this specific person "…may correspond to a past or present entity (or a version thereof), such as a friend, a relative, an acquaintance…". That is, the applicants see a potential to reproduce not only present but also *past* friends and relatives through a set of technologies. In particular, this points to the advancements in methodologies for using machine learning to reproduce voice, imagery, text behaviour, and more.

Necrorobotics can thereby be seen as a subdomain to social robotics, enabled by the possibilities for individual training of various modalities based on a specific dead individuals' data, for the sake of a personalised experience for someone still alive. On the one hand, one can point to the deceased individual as such, as a collection of training data, and on the other, this individual's training data can be collected for the reason of resurrecting the person into robotic agency for another person, still (biologically) alive. This would also include issues of design, as the robot would be designed (and personalised) specifically for that living person, or possibly a range of persons with individual memories and ties to the deceased. This context is relevant for the ethics of resurrecting the dead, elaborated further in Section 4 below.

2.2 Generative AI

With regards to specific technologies, robotic mirroring of the dead with some level of agency have been a possibility for a long time, often linked to narratives of eeriness. For example, the roboticist Masahiro Mori has referred to the development of prosthetic hands as well as his experience of wax dolls as inspiration for his article on *the uncanny valley* from 1970 [12]. In popular culture there are also expressions of necrorobotic resurrection, for example the "Be Right Back" episode of the British science fiction series Black Mirror (2013). Recently, various chatbot technologies have been used for resurrection, for example in 2018, the Journalist James Vlahos developed a "DadBot" based on his interviews with his dying father [22]. This was done through much manual labour of scripting possible replies and coding the background information into the software setting. We will return to other resurrection cases in Section 3 below. However, there have been recent advancements in what is called *generative AI*, that further prompt the need for ethical reflection and legal scrutiny in that it democratises the uses of AI and robotic agency, potentially based on training data from deceased individuals.

Firstly, one can here mention GPT-3 [2], which was instrumental for the launch of ChatGPT, with over 100 million users just two months after launching, according to assessments made. There are similar language model projects in Alphabet, Meta and Alibaba, for example, and it is not hard to picture individually personalised textbots enabled for the masses in the near future.

Secondly, GPT-3 is also the basis for DALLE-2 [17], which is an image-creating model activated by human prompts (see Figure 1.), similar in capability but not in style to Midjourney and StableDiffusion. These can be seen as steps to enable also generative capabilities of animated, potentially photo-realistic imagery within shortly. This can also be seen in light of so-called GANs that can be used for synthesising for example moving faces from still pictures, which made the headlines when Mona Lisa was made to speak, by a team at Samsung AI in 2019 [24].

Thirdly, for sound, a team of researchers at Microsoft published the VALL-E model in 5 January 2023, which they claim can be used to synthesize high-quality personalized speech with only a 3-second enrolled recording of an unseen speaker as an acoustic prompt [23]. The researchers admit that VALL-E "could synthesize speech that maintains speaker identity, it may carry potential risks in misuse of the model, such as spoofing voice identification or impersonating a specific speaker" [23, p.12-13]. This points to ethical issues of potential misuses also from the perspective of necrorobotics. They however do not offer much of a mitigation to such problems more than stating that it is possible to build a detection model to discriminate whether an audio clip was synthesized by VALL-E. This, I assume, is meant to tackle fraudulent behaviour in the sense that it can separate generated speech from recorded, but seems to offer little protection against for example if an attacker seeks to set resurrected family members to haunt the family from the grave. They refer to that Microsoft's AI Principles will be put into practice when further developing the models, but without stating how they will serve as a guide more specifically.

3 EXAMPLES OF PERSONALISED RESURRECTION

While bearing some notions of *necromancy*, that through history have been calling upon the ghosts of ancestors, it should in the shape of *necrorobotics* not be linked to it's spiritual or magical connotations, but as a mundane but important way of addressing the relationship to the dead that is seen in most cultures of the ages [20]. In this sense, it is neither all new or not an actual biological resurrection, but a technologically enabled increased agency by the dead, that asks ethical questions for those that develop these technologies – regardless of their intent with them.

In addition to the Microsoft patent mentioned in the beginning, and the Amazon executive's speculation on having "grandma" reading bedtime stories from the grave [9], there are reported examples of non-embodied necrorobotics. For example:

- In the autumn of 2020, a Canadian man used a chatbot service powered by GPT-3 to create a replica of his deceased girlfriend [6]. Reportedly, he "borrowed beta-testing credential" in order to develop the bot, but the conditions were set to a finite amount of "credits". That is, there would eventually be an end to the bot as well, pointing to an ethical question of responsibility for sustaining access, for those who supply with infrastructures for necrorobotics.

- Eugenia Kuyda, co-founder of a technology company, used 8000 lines of text messages between her and friend Roman Mazurenko, who was killed in a road accident, to create a chatbot that mimicked Mazurenko's way of speaking [14].
- In 2020, a South Korean mother met her deceased 7-yo in VR, produced by a Seoul-based studio, recreated from images and video [16].

4 THE ETHICS OF PERSONALISED NECROROBOTICS

While a necrorobotic resurrection is enabled by contemporary technologies, it seems like an ethical and legal positioning could on the one hand be placed in the much longer traditions on how to study and understand remembrance and the symbolic "being" with the dead [20], and, on the other, specific ethical and legal challenges relating to social robotics [7, 11, 18]. The examples or cases brought forward above speaks to an individual need for handling grief and loss. While one can assume that these needs are relatively stable over time, there are important cultural differences [20], as well as studies pointing to technological or other reasons for changes in mortuary practices and ways of, in fact, "being with the dead" [13, 20]. For example, differences seen in the practices before and after the American civil war [15]. Interestingly, cultural historical studies of mortal remains point to the "agency" of the dead, that is to how and why the living have cared for the dead as an active relationship [10]. This agency, one could say, comes to some sort of explicit peak in necrorobotic resurrection of the dead, stressing a need for further ethical and legal reflection in light of contemporary technological capabilities.

Recently, relating to data and death, a discourse in legal research have emerged around how to regulate individuals' data in the "digital afterlife" [21], often addressing it either as a matter of property or privacy [1, 8]. It has been noted that data protection rights, for example, in many jurisdictions is very weak for dead people [5, 8]. There are however other norms established around the importance of dignity in the handling of the dead, which can be brought forward as analogies for the sake of discussion. For example, the Geneva Convention states that the dead must be "disposed of in a respectful manner and their graves respected and properly maintained" (rule 115), which was first codified in 1929. The Philosopher Hans Ruin brings up the so-called Vermillion Accord, where a general right for the dead is established, as a way to formalise ethical concerns in archaeology [20, p.139]. Similarly, in Swedish law the violation of "burial peace" (griftefrid) is criminalised with up to two years imprisonment (BrB 16:10). This seems to be an area where much social norms intersects with legal aspects of protecting the (handling of the) dead, but it is also very much a physical and spatially located normative context of only speculative relevance for necrorobotics.

Social robotics, on the other hand, seems not yet to be touching upon issues of the resurrection of dead people. There are however ethical and legal challenges pointed to from a user perspective, for example linked to the various ways that AI-methodologies are supporting robotic agency [7]. Earlier studies have located robot ethics in the three broad categories of safety and errors, law and ethics, and social impact, also by acknowledging the "continuing

change" in the robotic capabilities, all of which relevant categories for necrorobotics.

From a governance perspective, that is, a normative perspective on how to guide necrorobotic practices in a an ethically accountable way, one could speculate on a few specific points, drawing from robot ethics. As pointed to by Fosch-Villaronga et al. [7], there two meta-challenges present in robotics – uncertainty and responsibility – which are of relevance for both policy-makers and (necro)roboticists. For example:

- As pointed to by the case above where the access to the underlying language model eventually was cut off, how accountable should providers of technologies that are used for necrorobotic purposes be for the sensitive aspects of cutting off access? At worst, a sudden lack of access could mean a second death for the resurrected, as experienced by the human user of the service.
- The question of *whom* should be allowed to resurrect a dead person is a key question, both regarding legal rights, but also ethically in terms of dignity. The South Korean example above may seem ethically acceptable when the mother is resurrecting her own child, but one could easily picture conflicts within the family or wider circles of persons linked to it. In addition, the patent described above points to the question of how the large data collecting companies may see new uses of the data that they hold, which possibly could be at odds with remaining family members or what the deceased would have wanted.
- Expanding the former point, questions of security in terms of for example hacking and data-theft are important too. AI-technologies may also be used for personalised spam, as pointed to by experts in malicious uses of AI [3]. From the perspective of necrorobotics, this would at worst mean a resurrection of the dead that is used for haunting and tormenting people.

These are mere examples of ethical and legal issues linked to necrorobotics that would need further scrutiny and development. Of interest for further studies would be to empirically study how necrorobotic practices are developing, but also normatively perceived. Will the mourning practices change along with technological capabilities in generative AI? How should the large data-collecting tech companies be regulated or ethically position themselves?

It is of both interest and increasing importance to look at ethical and legal issues in AI-enabled social robotics as such, but here with a particular focus on necrorobotic resurrection of dead people as a specific field of relevance for personalisation in HRI. This points especially to issues of accountability and legal uncertainty in relation to design, data handling and infrastructural actors.

5 CONCLUSIONS

In this speculative provocation, I establish the term *necrorobotics* in order to address emerging ways of "being with the dead", in the words of the philosopher Hans Ruin [20]. By drawing from a recent patent, reported examples of bots built on dead peoples data and an account of what here is referred to as "resurrection technologies", this paper discusses ethical and normative questions linked to personalised robotics as a way to resurrect the dead.

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