Conjuring Up the Departed in Virtual Reality: The Good, the Bad, and the Potentially Ugly

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Abstract

In early 2020, a South Korean TV documentary invited a grieving mother to interact with the digital recreation of her deceased daughter in a virtual reality scenario. Despite having what most people would consider an emotionally draining experience, the woman ultimately expressed nothing but gratitude for the unorthodox project. Inspired by this first documented case of a human–computer interaction involving the likeness of a deceased child, I briefly review the history of digital "resurrections" in the media, before reflecting on the psychological and ethical implications carried by this recent crossing of technological boundaries. Additionally, I invite readers to consider future directions in the virtual recreation of human bodies, as well as their potential impact on society.

Keywords: digital recreation, virtual reality, social presence, death, ethics

Public Significance Statement: Virtual reality technology may be used to simulate interactions with deceased family members, friends, or lovers. Faced with the meaningful consequences carried by this emerging practice, society needs to engage in a thorough discussion of both potential benefits and pitfalls surrounding the art of digital reanimation. To this end, the current paper presents several starting points, taking inspiration from the fields of psychology, philosophy, cultural science, and thanatology.

Conjuring Up the Departed in Virtual Reality: The Good, the Bad, and the Potentially

Ugly

Grief is not a problem to be solved or resolved. Rather, it's a process to be tended and lived through in whatever form and however long it may take. (Brody, 2018)

Having lost one of her three children to an incurable disease, Jang Ji-Sung found it impossible to move on. As her child's sudden death had denied her the opportunity to say goodbye, the South Korean woman remained stuck in a state of obsession, placing pictures of her deceased daughter all over her house, often talking to the sky in hope for some sense of connection. Her ordeal had gone on for three years, when suddenly, Mrs. Jang was offered a chance for alleviation by the most unexpected authority: a TV network. Asking for pictures and videos of the deceased, producers working for the South Korean company MBC suggested that a final farewell might be possible after all. A couple of months later, Mrs. Jang was invited to a TV studio, put on a head-mounted display—and met a fully animated 3D recreation of her child in a peaceful VR environment.

From a cynical perspective, one might assume that the ensuing reaction of the grieving mother provided exactly the kind of dramatic content that had motivated MBC to fund the project in the first place. On February 6th, 2020, the network broadcast *Neoreul Mannatda* (너를 만났다, translating to "I Met You"), a documentary depicting Mrs. Jang's reunion experience in all its heartbreaking detail (Kim, 2020). On the same day, the producers uploaded a ten-minute montage of the episode's most emotional moments to YouTube, where it would go on to surpass twelve million views within a single week (MBCLife, 2020). Viewers' comments below the video, however, painted a harshly divided picture: Responses ranged all the way from deep empathy and compassion ("This was so sad, yet so heartwarming"; "I can't stop crying") to utter repulsion ("This video makes me terrified"; "This would be absolute torture for me, I would not be able to handle this!").

Virtual Reanimations Are Not a New Phenomenon

In light of the topic's timeliness, it may be worth mentioning that the South Korean VR documentary is far from the first case of a digital "resurrection" in the media. In fact, efforts to bring dead people to virtual life can be traced back as far as the late 1980s—a time in which many film and television directors started to embrace computer-generated imagery (CGI) as a fundamental aspect of their craft. More specifically, media scholars usually date the first case of a digital reanimation to the year 1987, when directors Nadia Magnenat-Thalmann and David Thalmann presented festival audiences with their pioneering short film *Rendez-vous in Montreal*, introducing fully digital recreations of the late film stars Marilyn Monroe and Humphrey Bogart. While the six-minute film might look rather simple from today's point of view, it still constituted a tremendous visual achievement at the time: demonstrating to viewers and filmmakers alike that having deceased actors reappear on the screen could be used to profound effect. Yet, despite this successful proof of concept, it took the mainstream movie industry several more years (as well as an unexpected tragedy) to take its own shot at the art of posthumous digital recreation. It was not until 1993—shortly after actor Brandon Lee had died while filming the action movie *The Crow* (Proyas, 1994)—that Hollywood decided for the first time to complete a production posthumously with the help of computer software. Ever since then, reanimations of deceased film stars have made rather frequent appearances in big-budget feature films, including the digital recreation of Oliver Reed in *Gladiator* (2000), a fully synthetic Marlon Brando in *Superman Returns* (2006), or the recent depiction of the late actor Peter Cushing in *Rogue One: A Star Wars Story* (2016). At the same time, the advertising industry has not been missing out on the potential merit of using deceased stars to promote new products—resulting in digitally facilitated reappearances of icons such as Cary Grant, Katherine Hepburn, or Bruce Lee in contemporary TV commercials (D'Rozario, 2016).

It should be noted, however, that two crucial differences set apart the recent South Korean VR documentary from these previous examples of digital reanimation. Firstly, all of the abovementioned cases revolve around the virtual reproduction of famous actors, i.e., individuals of public interest who willingly provided their likenesses to the long-lasting domain of art. As such, it stands to reason that the affected individuals must have anticipated—and possibly even appreciated—the fact that their physical features would "live on" after their death. Of course, this is in no way supposed to imply that celebrities should be deprived of post-mortem personality rights (i.e., legal limitations that shield their image and identity from being exploited posthumously; for a deeper discussion of this juridical concept, see Kahn & Lee, 2016); if anything, it is commendable that movie studios and advertising agencies usually negotiate with the estates of deceased stars before featuring their physical likeness in a posthumous performance (Collins, 2002). On the other hand, legal experts have stressed that the jurisdiction concerning such post-mortem rights is actually a complex and ambiguous issue, not least because the respective laws vary greatly from country to country and state to state (e.g., Leaffer, 2007). Undoubtedly, the case of Jang Ji-Sung and her deceased child only obfuscates this further: With both being unknown laypeople, the arguments of public interest and artistic domain are completely removed from the equation. In their stead, new questions arise: Should the mother in the documentary be allowed to decide for her daughter whether her likeness will be broadcast to millions of viewers? Or should laws protect the deceased, who cannot give, let alone signal her consent in any way? And how should this issue be handled once it concerns departed adults?

Even more so, there is also a second important reason as to why the reunion experience documented in MBC's *Neoreul Mannatda* signifies the crossing of a new media-historical frontier. Unlike the two-dimensional depictions of deceased celebrities in movies and TV commercials, the South Korean documentary made use of VR technology, which has been shown to create a much more engaging and lifelike way of experiencing media than

other, more traditional technologies (Lee, 2004). In psychological terms, this means that the

digital reanimation designed for *Neoreul Mannatda* evoked much higher levels of *copresence*

and *social presence* than a movie ever could—i.e., fostering the impression of a shared

physical space as well as mutual awareness with the virtually recreated person (Lombard &

Ditton, 1997; Nowak & Biocca, 2003). In fact, the reactions of the mother involved in the

documentary strongly support this assumption: Not only did she respond to the virtual garden

shown in her head-mounted display as if it was a real physical environment, she also behaved

as if her daughter was right there with her. Considering the emotional consequences of these

perceptions, it becomes evident how groundbreaking MBC's endeavor truly was: By offering

a bereaved mother vivid illusory experiences in VR—and, thus, deceiving her brain into

considering the provided stimuli as real and immediate (Gonzalez-Franco & Lanier, 2017)—

the producers actually gave her a feeling of connectedness to her lost child. Compared to the

posthumous performances of movie stars that are watched passively on a screen, I suggest that

this certainly marks the beginning of a new era in the realm of digital human (re-)animation.

The Good

At this point, the media scholarship may wonder what to make of the surprisingly

imminent vision of immersive virtual reunions with dearly missed loved ones. Assuming a

strictly teleological point of view, all that matters is a simple counter question: Does it *help*?

Jang Ji-Sung, the grieving mother involved in the South Korean documentary, expressed

nothing but gratitude for her experience, stating that it had allowed her to "dream a long-

awaited dream" (Field, 2020). Of course, there is an argument to be made about the

subjectivity of this assessment; just as some people report great relief after visiting so-called

spirit mediums and other paranormal practices (e.g., Beischel et al., 2015; LaGrand, 2005),

others may feel strong apprehension towards anything even remotely resembling a séance. I

believe that virtual reanimations of dead children, spouses, or siblings are actually not that

different from such analogue orchestrations of posthumous goodbyes. Promising swift solace

against the innermost kind of longing, both practices emerge as quite literal manifestations of

the so-called *continuing bonds* approach to bereavement (e.g., Klass et al., 1996; Klass &

Steffen, 2017)—which suggests that a healthy adjustment to grief does not necessarily require

the severing of ties and emotional attachments, but may also build upon sustained connections

to the deceased. Indeed, recent research supports this perspective, highlighting the adaptive

value of continuing bonds (e.g., Black et al., 2020; Jonsson & Walter, 2017) while debunking

the previous notion of emotional detachment as the key to processing death (see also *stage*

theory; Stroebe et al., 2017). Following this paradigm shift in our understanding of

bereavement and coping, technological interventions such as the one shown in *Neoreul*

Mannatda could ultimately emerge as a meaningful therapeutic instrument in the future. As a

matter of fact, one may argue that sophisticated VR experiments in this vein are nothing but

the logical next step in the advancement of so-called *psychomanteum protocols*—a more

traditional method of supposed reunification with deceased loved ones that has already been

used extensively for clinical and scientific purposes (e.g, Beischel, 2019; Caputo et al., 2020;

Moody & Perry, 1993). During psychomanteum procedures, individuals are placed in a dimly

lit room and asked to gaze into a mirror, darkened space, or other person's face for a

prolonged amount of time. Fascinatingly, this process usually results in visual apparitions and

other sensory experiences, among both clinical patients and completely healthy participants.

In turn, researchers were able to document a significant reduction of unresolved feelings such

as sadness or guilt among bereaved individuals using this technique (e.g., Hastings et al.,

2002). Going beyond the sensory experiences described in the according studies, VR-based

reunifications may ultimately appear as a powerful technological upgrade to the

psychomanteum protocol—and hold similar or even stronger therapeutic value.

      Of course, it must be noted that continuing bonds might not constitute the most

beneficial approach to processing death for everyone. Instead, research indicates that

continued ties with the departed can also turn out quite maladaptive, especially among people

with insecure attachment styles (Stroebe et al., 2010). As such, a conclusive or generalizable

assessment of the therapeutic merit of meeting deceased friends and family in VR cannot be

offered by this paper. Even in the well-documented case of the recent South Korean

documentary, it remains to be seen how the virtual simulation will impact its protagonist's

grieving, coping, and healing in the long run. At the time of this writing, the only available

data in this regard are Mrs. Jang's initial self-reports, in which she expressed nothing but

relief and gratitude for the project. If taken at face value, these statements provide clear

evidence in favor of the vision of virtual technology as a powerful tool to foster death

adjustment. On the other hand, the events depicted in *Neoreul Mannatda* are still quite recent;

thus, it is not yet known whether Mrs. Jang's life will truly change to the better, or how she

regards the virtual simulation from a retrospective distance. Arguably, in one of the more

pessimistic scenarios, the idea of an unhealthy fixation on the virtual world comes to mind.

Without any specific evidence in favor of this notion, however, a positive outcome might be

just as likely—not least considering that Mrs. Jang's cultural background is probably going to

play an important role for the processing of her experience.

It is a well-established fact that people's cultural norms, customs, and traditions all but

determine how they make sense of death and what lies beyond it (e.g., Parkes et al., 2015;

Watson-Jones et al., 2016). Regarding the specific case of Mrs. Jang, for example, literature

suggests that South Koreans usually consider it as a great blessing to have a so-called *good*

death (좋은죽음), which is characterized not only by a lack of suffering, but also by dying with

family members present (Hong et al., 2017; Kim, 2019). Moreover, as the country has been

heavily shaped by both Christianity and Buddhism, many people in South Korea still believe

firmly in an afterlife—as well as the fact that a good death is required to reach it peacefully

(Kim, 2002; Kim, 2019). Acknowledging these cultural circumstances, I suggest that

international observers avoid criticizing Jang Ji-Sung's experience too firmly; from what we

can gather, the VR simulation might have gifted the grieving mother the impression of a good

death for her daughter—and thus felt like a great blessing to her. As long as people appreciate it and nobody gets hurt, the teleologist may argue, there really is no need for concern.

The Bad

…or is there? After all, numerous scholars have suggested that technological progress should not only be regarded as a matter of possibility and outcome, but also as a question of moral responsibility (e.g., Bostrom & Yudkowsky, 2014; Brey, 2017; Jasanoff, 2016). In this vein, it is not all that difficult to think of ethical aspects that turn virtual reanimations into an, at best, questionable endeavor. By design, characters such as the digital child depicted in the South Korean VR project do not even constitute *simulations* of a dead person—they merely provide empty vessels to be filled with the thoughts, behaviors, and emotions their creators deem appropriate. Even if guided by the insight of clinical psychologists or the explicit wishes of the bereaved, this constitutes a significant ethical problem: It disenfranchises the dead, simulating their physical likenesses while disposing of the identities and minds that previously inhabited them. The technicians behind the controversial MBC documentary worked a full eight months to create the photorealistic 3D rendering of a deceased child, using real photographs and recordings provided by the family. Although their result suffers from the same eeriness that plagues many other human-like animations (also known as *uncanny valley* phenomenon; Mori, 1970), it is still an impressive achievement of high visual fidelity. Unfortunately, the same cannot necessarily be said about the sentences programmed into the virtual character: Those are the producers' *guesses*, albeit good ones, about the things a child would want to say to her parents after being separated from them for a long time. I admit that in this particular example, it might be far-fetched to find moral fault with the affectionate words incorporated into the virtual seven-year old (e.g., "I hope my older brother and sister get along" or "I will always remember you."). However, thinking of deceased adults with complex relationships and sentiments, it becomes more obvious as to why the practice is inherently problematic: In their case, the technology could just as well be used to orchestrate

reconciliations that would not have been wanted during the deceased's lifetime, not to mention more sinister scenarios (confrontations, punishments, etc.).

Surely enough, assuming a naturalistic perspective may easily invalidate this argument: From this point of view, dead people cannot mind the behaviors or interactions forced upon them, anyway—they are *gone*. However, even in a naturalistic world, the ethical paradigm of deontology (e.g., Broad, 1930; Kant, 1785) suggests that every action possesses an inherent moral value, which overrides every single outcome, no matter how beneficial. In this vein, Öhman and Floridi (2017) argue that a person's control over their own identity constitutes nothing less than "the essence of the human condition" (p. 650), i.e., an immovable cornerstone of our shared moral system. In a later article, the authors even suggest that the digital afterlife of modern-day citizens should be treated in the same way as archaeological exhibitions (Öhman & Floridi, 2018): Permitting only those actions that do not affect the deceased's legacy in any way. In fact, Buitelaar (2017) comes to a similar conclusion, arguing that the long-lasting nature of digital data has made it more important than ever to extend people's right for informational self-determination beyond their death— even if international law might not always agree. Contemplating a future shaped by multisensory human–machine interactions and ever-advancing VR technology, I feel inclined to concur. As new technical possibilities will enable content creators to recreate human beings in increasingly complex and diverse forms, the integrity of people's identity might have to become *the* decisive deontological benchmark to protect their dignity—even if it denies grieving families the opportunity to experience virtual goodbyes.

The Potentially Ugly

But what if it was possible to circumvent the problem of "fake" identities in posthumous agents, after all? The answer to this question may be surprisingly imminent, as the so-called *digital afterlife industry* has made it its mission to develop authentic behavioral patterns from the data of deceased individuals. In fact, several technology startups (e.g.,

Eterni.me, *Eter9*) have already put forward artificial intelligence (AI) algorithms that produce messages in the style of a dead person—either by training the system while the person is still alive, or by constructing it posthumously from video, audio, and text documents (e.g., Banham, 2019; Holley, 2019; Öhman & Floridi, 2017). By these means, the industry has started to realize a vision that was still purely theoretical a mere decade ago: a society filled with "increasing numbers of previous generations, as deceased family members are reproduced" (Lombard & Markaridian Selverian, 2008, p. 321). Combined with on-going efforts to create photorealistic robot copies of real people (e.g., Hornyak, 2019), our world suddenly does not seem so far removed anymore from the artificial resurrections depicted in numerous works of dystopian fiction—ranging from Mary Shelley's infamous *Frankenstein* monster (1818) to the post-mortem androids in the science fiction TV series *Black Mirror* (2013).

Then again, I believe it is important not to underestimate people's resistance to technologies that may appear unorthodox or supposedly immoral. By now, several digital recreation endeavors have come and gone, including the commercial service *Virtual Eternity* (Hill, 2015) or the "personalized VR afterlife experience" *Elysium* (Maifeld, 2015). While more recent projects, such as the AI startup Eterni.me, already claim subscriber counts in the five digits, mainstream technology companies remain quite hesitant to invest in the digital afterlife industry (Öhman & Floridi, 2018). As a result, the corresponding technology may still be best described as a niche product. In my opinion, this does not come as a complete surprise, considering that psychological literature provides plentiful evidence for the innate human aversion against intricate human-like technologies—especially those that defy the natural order between man and machine or, as in this case, life and death (e.g., MacDorman, 2005; Wang et al., 2015). In addition to that, many studies show that certain dispositional, attitudinal, and social factors can actually worsen people's fear of lifelike artificial creations, including religious and cultural beliefs (Kaplan, 2004; MacDorman & Entezari, 2015), the

individual need for control (Kim & McGill, 2011), or previous exposure to dystopian media (Young & Carpenter, 2017). As such, new technologies for posthumous recreation might stay confined to a small niche of customers for the foreseeable future—that is, people who can align their religious, philosophical, and ethical views with the very idea of personality-simulating artificial intelligence.

Nevertheless, there is one particular use case for digital recreation systems that might soon prosper in our society on a much broader scale: Employing the technoloy as part of mass media entertainment. Similar to the work of human spirit mediums, which has been turned into successful media franchises such as the long-running TV series *Long Island Medium* (2011–present), the enormous interest in the recent South Korean documentary could pave the way for many more human-interest stories involving immersive VR technology. Ultimately, one could even suppose that productions such as *Neoreul Mannatda* present nothing but the logical advancement of popular family reunion shows. They might feature dead people instead of disappeared family members, but their purpose is exactly the same: to provide viewers with emotionally loaded content about the importance of the human connection.

Where Do We Go from Here?

There is an inherent skepticism forged into the minds of scientists, which might make some of us worry about a dystopian future all too quickly. At the same time, I believe it is actually warranted to be cautious of the possibilities that might occur once digital recreation technology unfolds its full potential. Most importantly, society needs to remember that the more available and affordable a technology becomes, the more difficult it will be to control its ethically justifiable usage. Arguably, this challenge has already begun: So-called *deepfake* software—AI systems that superimpose the face of one person onto video recordings of another, with nearly impeccable results—has become quite easy to acquire (Kietzmann et al., 2020). In turn, this high availability has set off troublesome developments, including the emergence of fake-pornography (Harwell, 2018) or political hoax videos that serve to disrupt

the democratic discourse (Chesney & Citron, 2020). Unfortunately, there is little reason to expect that these malicious practices will vanish anytime soon. Even though computer scientists are trying their best to develop new means of detecting deepfakes (e.g., Güera & Delp, 2018), media and law experts have expressed strong doubts if a media landscape corroded by inauthenticity can be averted (e.g., Harris, 2019). Ultimately, I suggest that the use and misuse of virtual human recreations, deepfakes, and similar digital products is not a problem that can be solved legally or technically, anyway—instead, it constitutes a moral challenge that will rise or fall with the strength of our societal norms. As long as digital creators feel obligated to adhere to principles of human decency, they are likely to think twice before "conjuring up" a deceased person for a virtual scenario, let alone doing so in an overly creative way. On the other hand, considering that there is already a sizable community of people who enjoy inserting celebrity faces into "involuntary" porn videos (Robertson, 2018), such hope may be regrettably misguided.

Nevertheless, I believe that we should not face our digital future with excessive pessimism. After all, the on-going digital revolution might also carry with it a profound reconceptualization of bodily identities, which could free many disadvantaged people from the physical restrictions forced upon them. Who knows whether the inhabitants of a posthuman world filled with flawless VR avatars, photorealistic robots, and omnipresent deepfake videos will even care about misappropriations of their real-life appearance anymore? Once an increasingly virtualized world allows them to construct and reshuffle their bodies at the touch of a fingertip, people might just as well choose to build their identity upon anything *but* their innate physical nature.

For the time being, the best our society (and we as the media scholarship) can probably do is to have an open-minded discussion about digital recreations and how they relate to concepts of identity, dignity, and the self. Doing so, some might even find it empowering to dream of a digital afterlife (Bassett, 2015). As an absolute starting point, I

suggest that we start telling each other what we want: Similar to the emergent practice of *digital wills*—in which people stipulate what should happen to their social media accounts after death (Cerrillo-i-Martínez, 2018)—it could become a valuable practice to put one's wishes concerning virtual reanimation into writing. By doing so, family members will never have to wonder whether their desire for a virtual reunion contradicts the wishes of the deceased. Then, if people still decide to proceed, all that is left is the hope that, just like Jang Ji-Sung in *Neoreul Mannatda*, they have a genuinely helpful experience.

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