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Death, Disrupted

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Imagine your spouse dies after a protracted illness, but you are charged with maintaining their digital avatar. They're present when you're making dinner and watching Netflix in bed. What happens if you plan to start dating again? Do you hide them in a corner of your basement? The infamous "Be Right Back" episode of the British science fiction series *Black Mirror* is an exaggerated version of this speculative scenario, but the future is in many ways already here.

San Francisco-based entrepreneur Eugenia Kuyda's best friend, Roman Mazurenko, died suddenly at a young age. As technologists who spent countless hours messaging each other over various apps and platforms, and because Roman was also a Singularity proponent, Kuyda decided the most fitting way to memorialize Roman would be to construct a postmortem chatbot based on an aggregate of his personal data. Kuyda quickly realized that, much like Weizenbaum's ELIZA, Roman's friends engaged in heartfelt, intimate conversations with the bot (Turkle 1984). Through her startup company called Luka, Kuyda built a prototype. Replika mimics your patterns of communication and learns more about you while you are still alive, acting as a confidante and friend as well as leaving a potential digital legacy behind.

Eterni.me, funded by an MIT entrepreneurship fellowship, makes many of the same promises. Marius Ursache started the company as a way to create digital copies of the dead. He, too, suffered a personal tragedy that inspired the startup. In addition to answering personal questions posed by a chatbot, the Eterni.me avatar relies on additional data: "We collect geolocation, motion, activity, health app data, sleep data, photos, messages that users put in the app. We also collect Facebook data from external sources." Skeptics have raised questions about surveillance, privacy, and data rights attached to the digital belongings and likenesses of dead individuals, as well as the healthfulness of continuing intense relationships with the dead through mediated channels. Life Naut purportedly uploads your mind file into your bio file, or at least will when technology is advanced enough. In this context, genetic and biometric information is potentially combined with personal data streams to simulate a human being. Terasem, a transhumanist organization, backs Life Naut. Martine Rothblatt, one of its founders, created a robot clone of her wife, Bina.

Immortality potions have been around for millennia, promising long life while sometimes

inadvertently poisoning their consumers. Beyond the hucksters and hoaxers, however, some wholeheartedly believe in the quest for a magical substance that will indefinitely prolong life and cheat death. Rather than relying on the alchemy of past centuries, such as the liquid elixir found in an Ancient Chinese tomb, today's immortalists tend to work in the tech industry, pitching products built from recipes of code and financial speculation.

In Silicon Valley, short-lived startups centered on radical life extension and digital immortality abound. While promising their users endless posterity, the companies themselves are dependent on the whims of venture capital. Not everyone's a cynic, however, as some elite techies really do think they can escape the limits of their earthly fate, uploading their minds to become part of the cosmos or remaining young and virile for centuries through cryonics or biohacking. The apocryphal part is that wealthy technologists plan to live forever at the expense of ordinary users, who may only achieve immortality through their measly data.

Data Ghosts

Social networking services for the dead are emblematic of a fantasy regarding disembodied information and its capacity for thwarting physical decay and death (Hayles 1999, Ullman 2002, Braidotti 2013). With data-based selves, habitual, consumer-based, and affective patterns constitute a speculative form of currency and capture; to know the data is to know the person (Raley 2013, Cheney-Lippold 2017). Through harvesting data from a variety of sources, it is possible to predict dead individuals' responses to conversational prompts or, employing resources like Amazon's recommendation engine, what a dead individual would purchase if they were still alive. For the most part, companies don't go so far as to claim that these captured patterns or glitchy avatars are the same exact thing as the person they represent, but they are still of social value. Perhaps in a world where many transactions and interactions happen through awkward interfaces—from virtual assistants on banking or travel websites to app-based healthcare or iPad ordering systems and the on-demand economy—a data double is close enough.

This is why digital afterlife companies also exist on the more mundane side of the spectrum. Digital estate planning startups promise to protect your personal data forever, passing your accounts onto your loved ones after you die. After death, illness blogs and even email accounts may take on a new aura, as they are visited and kept by mourning kin members and broader social networks. Through an act of intergenerational exchange, ordinary Twitter and Instagram accounts can become treasured family heirlooms. This is obviously not what social media, with its focus on rapid, real-time responses, was intended to do. Death has disrupted social media. In the same way that you would want to care for your tangible property and keepsakes like houses, jewelry, and mutual funds, you might also want your descendants to take care of your Facebook profile and email accounts (Kneese 2019). Dead Social promises to help individuals organize their social media wills, bequeathing password information as well as goodbye videos and final status updates along with funeral instructions and organ donation information. In many ways, digital media have entered into serious existential concerns over life and death. Recent works by media scholars like John Durham Peters (2015), Amanda Lagerkvist (2015), and Yuk Hui (2016) underscore the ontological status of digital objects and the techno-social assemblages inherent to digital afterlives.

Silicon Valley's "fail fast, fail often" mantra is at odds with eternity: most digital legacy companies die out almost as quickly as they appear. Apocryphal life extension technologies are deeply rooted in the techno-utopianism and hubris of Silicon Valley culture and much older dreams of achieving immortality through technology. Immortality chatbots rely on venture capital and the short-term metrics of startup culture, as well as on the mountains of personal data ordinary people accumulate across everyday apps and platforms. There is an inherent temporal contradiction between the immediate purposes of digital media and their capacity to endure as living objects. Startups are, for the most part, intended to die early deaths; in Silicon Valley circles, failure itself is a badge of honor. Thus, the longevity of people's digital legacies relies on the lifespans of corporate platforms, as well as a number of potentially ephemeral startups.

Despite its techno-optimism, Silicon Valley is also a cynical place. Or at the very least, it's full of bad ideas: many startups are built to fail. Failure comes

so naturally to Silicon Valley that a San Francisco-based conference called FailCon launched in 2009. What does it mean to trust your personal data, your most intimate collection of digital objects, to ephemeral startups? Can they really help you live forever? And if so, what does digital immortality look and sound like? (Immortality chatbots are stilted conversationalists and would never pass the Turing test. Still, they purportedly preserve and store the essence of a human personality).

Because digital estate planning companies are not lucrative, often providing free services, they tend to quickly fold and vanish. What seemed to be a promising enterprise in 2008 is mostly a dead end today. Over the course of my dissertation and book research, most of the startup founders I interviewed left the business and nearly all of the digital estate planning companies I researched have folded: Sites such as Legacy Locker, Perpetu, MyWebWill, 1,000 Memories, CirrusLegacy, Online Legacy, Entrustet, Lifestrand, Deathswitch, and E-Z Safe have all disappeared. Digital death is an underlying condition of digital posterity. It is ironic that such web-based companies promise to keep your data alive forever when digital estate planning startup companies are themselves highly erratic and subject to failure. Today, a younger generation of founders is hoping to disrupt digital death, often targeting millennials with their products. But digital estate planning and immortality chatbots do not address the overarching problem of platform ephemerality.

Platforms and profiles change over time and may even disappear, so it is difficult to ensure that digital remains are preserved. For one, they are dependent on the particular corporate infrastructures on which they are built and the continued commercial viability of such companies. MySpace, Orkut, Friendster, LiveJournal, GeoCities, and other obsolete social networking platforms remind us that even the most successful tech giants may not live forever, or that their uses and users may change over time. It is hard to trust that a profile, blog post, digital photo album, or uploaded consciousness will survive in perpetuity.

Immortality Hiccups

Despite its intimate relationship with ephemerality, Silicon Valley is attempting to defeat death through movements like cryonics and transhumanism, as well as less fanciful enterprises like life extension through supplements, exercise, and nutrition. It is perhaps unsurprising that youth-obsessed Silicon Valley is disturbed by the notion of bodily decline. The wellness ideology associated with the Quantified Self movement and self-tracking through Fitbits and other wearable devices emanates from Silicon Valley culture itself, with its unique blend of New Age counter-culturalism and libertarian or neoliberal tendencies (Barbrook and Cameron 1996, Turner 2006). Failure itself is a feature, not a bug, of startup culture. The death of companies is an expected part of the culture, with failure baked into the very system of venture labor and the prominence of risk-taking (Neff 2012). But to actually die, to be a mere mortal and subject to the whims of time or the flesh, is less than ideal. Silicon Valley is in search of a techno-solution to death, both on a physiological level and in terms of the problems associated with digital inheritance.

When it comes to dealing with death, startup culture attempts to apply to a techno-solutionist salve to something inherently messy. The logics of planning, charts, and neat lists don't necessarily add up when a death happens. There is always the potential for a glitch. For instance, a British woman who died of cancer received a letter from PayPal claiming a breach of contract for her failure to keep paying. After her death, her husband had contacted PayPal with her death certificate and will, as requested, but PayPal's system failed to register this and accidentally sent the letter anyway.

Many digital immortality startups are in fact vaporware, or novelties that are more theoretical than utilitarian. But they are made material through the capital backing them and the valuable data their subscribers provide. At the same time, entrepreneurs often overestimate their possibility for success. A 1988 study showed that a majority of entrepreneurs believe they can prevent the death of their company. In a paper called "Living Forever: Entrepreneurial Overconfidence at Older Ages" (2013), Dutch economists found that entrepreneurs have a tendency to overestimate their actual life spans as well as the lifespans of their companies. This in part may explain the number of transhumanists in Silicon Valley. On a practical level, entrepreneurs must display a certain degree of optimism in order to ease the worries of accelerators and incubators who might be interested.

Death is sometimes used as a metaphor in Silicon Valley discourses about failure. Many startups do not go bankrupt right away, but never attract a healthy customer base. Instead, their founders or other investors continue pouring money into them. According to one technologist, "We call them the walking dead…They don't necessarily die. They putter along." (Carroll 2014). Software engineers may have to decide to abandon the startup shift and find more stable work, whereas founders have a hard time knowing when to pull the plug on their creations. Shikhar Ghosh, a lecturer at Harvard who has studied startup mortality, noted that "VCs bury their dead very quietly" (Carroll 2014).

It is increasingly easy for startups to get funding, thanks to crowdfunding sites like Kickstarter and GoFundMe or IndieGoGo in addition to the standard angel investor route. Would-be entrepreneurs do not have to rely on venture capitalists. But this also means that a sea of unlikely startups has proliferated, while the vast majority of those companies will die early deaths. For anxious founders, the startup death clock can estimate when their ventures are about to run out of money. Much like individuals can leave goodbye messages on sites like Dead Social, dying startups often post final messages to their users before their websites become defunct. Startup death is a significant problem in Silicon Valley, so what does it mean to rely on precarious startups to broker long-term relationships with the dead?

Wealthy VCs also fund life extension research. It's not just the bearded weirdos like Aubrey de Grey. There is a much longer history of using new technologies and data tracking, along with changes in diet and exercise, to prolong the human lifespan and optimize the self (Bouk 2015, Wernimont 2019). For elites, that is. The Life Extension Institute of the early 20th century, for instance, found ways for wealthy white men to cheat death through diet and exercise regimes, publishing self-help books like *How to Live* while surveilling workers in factories according to eugenicist principles in order to maximize their productivity. Founded in 1913, the LEI was backed by members of the National Academy of Medicine, major insurance firms, and companies like Ford and GM alongside President Taft and Alexander Graham Bell; it was by no means a fringe movement.

Echoing these historical connections, at a conference on radical life extension, Terasem's Martine Rothblatt exclaimed, "It's enormously gratifying to have the epitome of the establishment, the head of the National Academy of Medicine, say, 'We, too, choose to make death optional!,'" highlighting the ways that transhumanist visions are often tied to esteemed institutions. Consider Nectome, a formerly MIT connected and federally funded startup promising to scan human brains and turn them into digital simulations. Because it relied on fresh brains to work, it required subscribers to be euthanized first. This seems like a risky move, but investors like Sam Altman of Y Combinator immediately signed up. One of the founders said, "The user experience will be identical to physician-assisted suicide…Product-market fit is people believing that it works." In other words, the founders don't really care if it works or not: if people *believe* it does, the market will abide.

Silicon Valley-centered narratives are typically focused on short-term gains, a few entrepreneurs, and innovation at all costs. But as the internet ages, social media platforms have been caught up in questions of posterity and even transcendence. For Silicon Valley startup culture to deal with death raises some interesting questions about future projections and risk. Instead of trusting religious entities with your immortal soul, you should put your faith in the tech industry. Rather than employing established banks and corporations to manage your digital assets, you, the ordinary user, are expected to outsource that labor to a host of new, web-based companies. By definition, startups attempt to "disrupt" industries they view as obsolete or clunky. Or as one of my research subjects put it: *"investors say the most boring industries are the most lucrative."* There is an obvious disconnect between the companies that promise to organize your digital belongings for eternity and Silicon Valley's cultural expectations around failure.

There is historical and contemporary synergy between powerful Silicon Valley interests and transhumanist belief systems, as many noted futurists have prestigious positions in the tech industry. For instance, Ray Kurzweil, a well-known proponent of the Singularity, is also Google's Director of Engineering. According to computer scientist and science fiction writer Vernor Vinge, humans' technological capacities will accelerate.

Eventually, superintelligent AI will self-replicate and evolve on an ever-increasing timescale, leading to humanity's end. While Vinge sees the technological Singularity as a destructive force, Kurzweil and those of his ilk believe it has the ability to solve all of the earth's problems, including climate change. The temporal patterns of the Singularity thus coincide with Silicon Valley's race for the new, i.e. the planned obsolescence of Apple products, perpetual updates and upgrades for software packages, or the fetishization of the latest gadgets.

It's not always completely cynical, either. Ray Kurzweil is trying to resurrect his dead father, and many transhumanists have suffered personal losses that inspire them to find ways of mitigating death. For some, transhumanism is a form of spiritual practice or belief system (Boenig-Liptsin and Hurlbut 2016, Bialecki 2017, Singler 2017, Farman 2019). The truth is that no matter how far-fetched some of these technologies may seem, they are already starting to affect how people interact with the dead and conceive of their own postmortem legacies. But for those who can't afford the treatments and elixirs, digital immortality might be the only available route to living forever. There is a chasm between those who can afford actual life extension technologies (in the US, this includes things like basic healthcare) and those who can train free digital chatbots to act in their stead.

When it comes to the history of life extension technologies, as well as modern genres of transhumanism and digital afterlife startups, people are working to engineer these items. They are not abstract fantasies, but connected to real money, speculative investment, and sites of extreme wealth and power. While their technologies are apocryphal, they rely on logic and cold rationality to justify their vision of the future, which they are actively building. Their science fiction tinged narratives are not speculative, but roadmaps for the future.

On a rapidly warming planet where tech billionaires fantasize about escaping to the far corners of the earth in their bunkers, or even to Mars, immortality technologies are undeniably apocryphal. Freezing your head, perfecting your body so it lives for centuries, or uploading your consciousness to a magical server won't help you if the whole earth burns. But for those with immense wealth and power, and a fervent belief in the salvific potential of technology, immortality is still a goal. Even if the Silicon Valley transhumanists eventually figure it out, only a select few will have access to their life-sustaining wares.

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