

Punks and profiteers in the war on death

Jacob A. Boss

Abstract

The genre of transhumanism known as biohacking, or the human augmentation movement, is rooted in a history of medical and scientific developments in the service of religious nationalism, where the perfection of the American body is advanced as a patriotic duty and symbol of the superiority of the American nation. Some participants in the biohacking scene advocate for a classic global rehabilitation project in the tradition of UNESCO, a post-war project of global salvation through collective evolution and science literacy. This vision contrasts sharply with separatist and grassroots biohacking projects. I introduce a model of 'punks and profiteers' to investigate two broad genres of biohacking: Corporate Medical Futurism and the DIY biohacker movement. Both strands rely on the fruits of the post-WWII boom in prosthetics, plastic surgery, and drug therapies, fruits well watered by religious and nationalist imperatives. Exploring the war on death led me to the grinder punk biohacking movement, which troubles the dominant view on transhumanism with their delight in human existence, taking limited interest in, or even demonstrating hostility toward, immortality, and rejecting ideas of finding salvation in escape from nature, the human body, and the earth.

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Affiliation

Indiana University, Bloomington, USA.
email: jaboss@indiana.edu

I heard there was a war on death being fought with buttered coffee, microchips, and the blood of the young.¹ I hurried to the front lines at DEFCON, an enormous hacking and technology conference held yearly in Las Vegas. At the Biohacking Village I met a group of punks making an extra-institutional path for cybernetics research in the shadow of corporate greed and state violence.² There were plenty of suits lined up too, ready to sell the future with a smile and a subscription service, promising that we could all make ourselves better. Soaking up the language of biohacking, I found it saturated with the idea of ‘medicine as a tool of self-realization’ (Serlin 2004:4), where technology and pharmaceuticals are sold as the building blocks of an authentic American self (Elliot 2004:52–3). The battlefield of the war on death is also a marketplace of transhumanist self-creation. By *transhumanism* I mean a worldview that anticipates, desires, and works toward the surpassing of human physical capacities through technology, especially the end of aging, illness, and death. Committed to materialism and individualism, transhumanists assert that remarkable technologies – not events such as divine resurrection or release from karmic rebirth – will conquer and even reverse death. In the conference room/battlefield/marketplace, punks answering the call of the cyborg Lepht Anonym to experiment on themselves took turns at the podium, alternating their scrapheap visions with the gilded assurances of the profiteers.³ ‘This is hacky, crude transhumanism,’ Lepht advised. ‘If you want eternal life you need to go bother somebody else.’ In pursuit of the war on death I also found its conscientious objectors. ‘Stay away from normal people,’ Lepht warned.⁴ Good advice for cyborgs whose lives have been used as fuel for the fantasies of futurists, consumed in pursuit of perfected and deathless forms (Weise 2020; Williams 2019).

The ‘war on death’ is a response to the fact that human lives and human bodies end. It is a call to action by those whose response to mortality was to seek to conquer death. The war on death is informed by nationalist imperatives, self-help movements, and dreams of technologically facilitated embodied salvation. Identifying death as an enemy is a theme held in common by mega-corporations and individuals in the biohacking scene, where the hacker ethos of learning the structures and functions of systems to critique and repurpose them is applied to human biology (Coleman 2013).

My initial interest in biohacker and transhumanist groups lay in determining whether they were pursuing a uniquely American vision of sovereignty and individual bodily perfection in their attempts to defeat death and sell a lot of expensive ephemera such as dietary supplements and dubious healing devices. I suspected that in pursuing the creation of an ultimate

ethical being, biohackers would internalize and reproduce the qualities they critiqued (domination, regulation, exclusivity, in short – limitation) in the institutions they deplored.⁵ Mistaking limitlessness for freedom (Boss 2020b), these futurists dreamt of overcoming the great seals blocking utopia: church, state, and corporation. Detached from intersubjective models of justice and liberation, they set course to optimize for neoliberalism instead of engaging the possibility of other forms of sovereignty (Sullivan 2020), becoming ‘simply smaller versions of corporations’ (Gershon 2011:541). To riff on David Graeber’s critique of paperwork societies, technologies of bureaucracy become internalized when the goal of biohacking is the production of control. Corporeal data domination obscures the possibility of poetic exploration and liberatory social transformation, achieved by breakthrough technologies (Graeber 2016).

It is for this reason that I introduce the ‘punks and profiteers’ typology. It is not enough to differentiate only between grassroots and elite transhumanisms. We need to track both punk and profiteering drives as they thread through and crystallize out of all these scenes.⁶ In this model, the punks are those that take a DIY (do-it-yourself) approach, resist commercialization, and offer a critique of norms (Ibrahim 2020:1–17; Thompson 2004), while profiteers reinforce existing commercialized and exploitative structures, whether intentionally or through neglect. In biohacking, the *grinder* subculture, where participants make and implant cybernetic devices in their bodies in extra-institutional settings, exhibits strong punk tendencies. This contrasts with the profiteering exemplified by the sellers of miraculous supplements and devices. This is not a binary that restricts all actors to being either a punk or a profiteer. ‘Punks and profiteers’ is a way of modeling modes of relating. It helps to navigate how identity is established and contested among punks and profiteers. Punk scenes emphasize the expression of values through aesthetics (Nault 2017; Stewart 2017:18). Punks who slide toward profiteering and profiteers who cloak themselves in punk aesthetics risk being called out as conformists, sell-outs, and phonies. Someone may look and talk like a punk and still be trying to sell you vitamins.

Punk is ever shifting, ever seeking to exceed the normative, and profiteering is always pursuing, seeking to reincorporate breakthrough into the mainstream. Punk in this model is fugitive,⁷ in Marquis Bey’s terms, it gasps for ‘the opening act of a new creation’ while constantly in danger of being captured and commodified, its radical potential domesticated by ‘systems of white supremacist capitalism and neocolonialism’ (Bey 2019:94–115 ‘Three theses’). Authors in Black Feminist, Transhumanist, Queer, Disability, and Punk studies guide me, keeping me looking for ‘affirmative

expressive activity used when a way of living “exceed[s] the common-sense of normative categories of social being” (Bey 2019:141–50 ‘Flesh Werq,’ quoting Ellison 2017). The Lavender Panthers, punk icons, and zine creators who drew on Black and queer power, fought back against those systems, and assimilationist politics, when they decried the ‘gruesome phenomenon of the “straight-acting” gay male,’ in their 1989 manifesto ‘Don’t be gay.’ This gruesome figure is an antidote to fears of queer contagion (Mosurinjohn 2014), championing cultural reproduction, demanding (through legal, religious, corporate avenues) enfranchisement, understood to mean enshrined access to wedding cakes, not the disruption of Religion as consumption, and not the imagining of new forms of community (Lofton 2017; Puar 2007; Sullivan 2020). This attitude, ‘which accepts the world as it is, striving only to preserve the status quo – can only lead to destruction’ (Arendt 2006:III). The gruesome champion is reassured they are doing the right thing by selling out. Perpetuating exploitation is recast as taking care of oneself and one’s family. Cash pays the rent, or for entire activist campaigns,⁸ and sublimating oneself into the same nationalist culture that fuels the war on death is held out as a path to security for the minoritized (Nault 2017).

Following my encounters at DEFCON, I narrowed my focus to a group of biohackers identifying themselves as grinders. They were also named ‘practical transhumanists’ by grinder progenitor Lepht Anonym. Not far from where Kevin Warwick underwent his much reported procedures to transform into Captain Cyborg,⁹ the – for a time faceless and anonymous – genderless blogger known as Lepht Anonym worked to develop a transhumanism anyone could do at home. Having no access to resources like Warwick, but driven to explore new intimacies and possibilities in human plasticity and cybernetics, Lepht endured the pain and risk of self-implantation of magnets under the skin. These magnets in its flesh would, once healed, indicate the presence of electromagnetic activity by vibrating, generating a ‘fizz’ and distinct sensation responsive to the nearness and strength of energy sources. In 2007, Lepht began sharing stories of its work toward accessible transhumanist alterations on its blog: Sapiens Anonym. In 2010, Lepht gave a talk entitled ‘Cybernetics for the masses’ at a hacker conference in Berlin.¹⁰ According to the grinders I spoke with, this recorded talk was a formative moment for the movement. When asked to identify their source of inspiration, they would often point to Lepht, the blog, and the talk in Berlin.

The grinders are a movement of grassroots technology enthusiasts, grungy and poorly funded do-it-yourself inventors and artists, punk and cyberpunk influenced visionaries. Grinders take their name from the

Doktor Sleepless comic book series by Warren Ellis.¹¹ In the comics, grinders are a subgroup of malcontents in a dystopian near future who implant hacked, scrapped, and repurposed technology into their bodies as acts of self-expression and resistance. Some grinders recognize strong resonance between their anti-oppressive politics and the comic book freedom fighters, while others despite the recent emergence of the movement don't even know the comics exist.

In my field work with the grinders, I identified competing ethical and religious positions as well as punk and profiteering impulses. For example, the acceptance or rejection of death, the belief that humans have a cosmic destiny, and the struggle over whether to give away or charge for implantable technologies. Since 2017, I have traveled around the United States, following the convention and conference circuit frequented by grinders. Grinding happens away from MIT and corporate offices, transhumanist religious centers dedicated to mind uploading and digital immortality such as Terasem temples, and corporate futurist events such as Tesla press conferences.¹² Grinding happens in basements, garages, crowded ranch houses, and rented music venues. That's where I learned about the lives, projects, and commitments of this thriving subculture of punk technology enthusiasts.

As the Lavender Panthers rejected the straight-acting gay male, the grinders reject corporate-acting biohackers. Grinders can be a foil for elite technologists, but they and their fellow biohackers can also overlap with elites in confusing ways. Thus, this article shares tools to help navigate spaces where people are using language that mixes technological development with salvation, especially in cases of biotechnology and bodily perfection. I introduce the terms *Corporate Medical Futurism* (CMF) and *bioposturing* for insight into, and to clarify some of the dynamics, framing, and motives in the biohacking scene. Corporate Medical Futurism is my term for those who show up in slick outfits with slick power points and stories precisely calibrated by consultants to make people believe the future will be glorious. Never mind the cost, that's what payment plans are for. It is concerned with making you feel hopeful about the future you can purchase through them. There is a desperate and insatiable hunger for hope that fills the social media feeds and inboxes of biohackers. Some biohackers take pains to set expectations, clarify they are not practicing medicine, and promise nothing other than updates on their investigations. Others hint that their products may effect extraordinary results for you by telling relatable stories of their personal, miraculous recoveries. Corporate futurism makes extensive use of the same language of rebellion, independence, and liberation from tyranny as the punks do, it litters their marketing pitches. Corporate

Medical Futurism is an approach and mode of relating to the war on death and the future that perpetuates predatory medical business models and is deeply interwoven with military and transnational investment. Corporate Medical Futurism ‘borrow[s] freely and without shame from the lexicon of free market economics refined during the postwar era’ (Serlin 2004:7).

There exists a special reciprocity between CMF and the US government, which emerges from Cold War era ideas of American bodily perfection as an expression of a medically facilitated subjectivity infused with nationalism. As David Serlin has shown in *Replaceable You*, this is a paradigm ‘in which rehabilitating one’s physical body made one more tangibly and visibly American than ever before’ (Serlin 2004:14). Bodily modification became a preeminent means to satisfy a civic duty to exhibit the radiant health and beauty of Americans in the face of Soviet communism, which was imagined as debilitating for both the individual and national body. In the light of CMF, we are supposed to imagine that we can all become like Superman or Captain America, perfect and beautiful. We might regard ourselves as elect, even something saintly in that, through beauty, asceticism, and health we are moral exemplars – in Cold War terms – physical bulwarks against godlessness.¹³ This radiant nationalist perfectionism continues to suffuse the war on death. In their drive to a technologically facilitated and scientifically blessed optimization, the proponents of corporate medical futurism rush to internalize what Hannah Arendt predicted would be the stultifying refuge of total automation.

The people I met during my ethnographic research used categorizing and identifying terms such as transhumanism and biohacking in a loose way. There is no catch-all, and events that cater to crowds interested in technological body modifications are obliged to produce lists of potential identifiers for their visitors,¹⁴ who may identify with biohacking, transhumanism, DIY biology and cybernetics, grinding, and medical technology hacking. I try to stick to the following ways of using what are fuzzy terms.

Biohackers take the hacker approach of learning the laws and functions of a system in order to adjust and repurpose them, and the system they apply it to is human biology. Biohacking is a catch-all term inclusive of everything from yoga to implanted medical device network security. It encompasses practices such as body modification and piercing, at-home genetic research, and experimental diets. Biohackers often conduct their work outside of major institutions. They may use maker space-inspired community bio labs. Authors who recommend particular diets and supplements have adopted the term to describe what they do, alongside people attempting to improve the availability of life-sustaining devices such as mechanical pancreases and chemicals such as insulin. *Grinding* (practitioners are

grinders) is a punk and DIY inspired subculture of biohacking focused on using currently available technologies for body and sensory modification, art, and self-expression. Further, grinders develop and install functional devices such as biometric collectors that report on body qualities such as temperature in real time, and magnets that allow one to feel nearby electrical activity. Grinders are all biohackers, but not all biohackers are grinders. Some biohackers may identify explicitly as transhumanists, while others may not, while still evincing transhumanist worldviews.

Bioposturing is the act of showing off, overpromising, or using biotechnology to advance an agenda. For example, when the California legislature regulates home use genetic therapy kits that don't actually exist, this is bioposturing: it sends a message to constituents and hackers that the state legislature may interfere with at-home genetics research in anticipatory fashion.¹⁵ When one hacker involved in DIY bio¹⁶ accuses another of showboating and misrepresenting the capacities of their technology to drive enthusiasm, this is an accusation of bioposturing;¹⁷ it is also an act of bioposturing, as the accuser claims they are trustworthy and can diagnose false promises in other hackers. Posturing impacts reputation, and reputation is how people find and patronize, join, or avoid specific biohacking outlets. When social media giants selectively scrutinized and banned biohacker Josiah Zayner, yet allow genocidal organizing and radicalization, this too was posturing.¹⁸ Banishing Zayner from their sites may be pitched by companies as evidence that they are protecting their users, but it also bestows him with further rebel legitimacy.

Biohacker collectives and grinder cohorts are nascent formations, experimental communities of the type that anthropologist Abou Farman describes as 'seeding evolutionary alternatives' to promised and predicted futures (Farman 2020:272). Such communities search for other futures than the one purchased on subscription from the shining white edifice (Noble 2018) being endlessly reproduced by biased and exploitative technologies.¹⁹ Many biohackers bring an open-source egalitarian ethos to the struggle to develop extra-institutional alternatives for technological development and deployment. 'I try to make everything GPL. I'm GPL,' declared Lepht, identifying its existence with a type of free software license and opening a glimpse into the emerging legal consciousness of biohackers (Coleman 2013). Like Donna Haraway's imagined cybernetic bastards, punks strive to be unfaithful to the systems that produced them (Haraway 1991:151). And as critiques of Haraway have demonstrated, in order to bake anti-oppressive and liberatory design, development, and deployment into technology it must center cyborgs, that is, the disabled and marginalized (Boss 2020a; Butler 2020; Weise 2019; Williams 2019).

It is significant that this research was catalyzed in the vast and chaotic experience of DEFCON, where attendees were hacking US voting machines just to show it could be done, hacking the computers that are in our cars, hacking unsecured phones and laptops brought by the unwary and incautious to the convention. There were recruiters from major technology companies perched on brown boxes filled with brand merchandise, pushing logo-studded shirts into the hands of any passersby, asking if they wanted a job in Silicon Valley. There were reunions and new meetings in clouds of smoke wafting between slot machines set up like pews. There were people walking around with enormous antennae sticking out of their backpacks, sucking up data from the air, and people injecting computer chips into their bodies and trading tips on how to genetically modify organisms. Anarchists, scientists, federal agents, punks, furies, roman statuary, painted-on skies, queer pool parties, it was all at DEFCON. There was a barbed tension, as the feeling of limitless possibility was checked by the pervasive presence of law enforcement and the high cost of attendance. There is a treasured DEFCON practice, styled as a game, called 'spot the fed,' where attendees pick out federal agents trying to blend in with the hacker crowds. The watched watch the watchers. DEFCON is a space of tremendous possibility, personally, professionally, expressively. Feeling an affinity and appreciation for the anti-authoritarian, radically open-source, privacy advocating grinders, who want a horizontal playing field where no one is denied access to life-enhancing technologies, I left Vegas determined to learn more about them.

Academic research on transhumanism, biohacking, and human augmentation has focused on elites and immortality,²⁰ frequently returning to a common pool of institutionally and corporate-based researchers and businesspeople characterized as leading lights of transhumanism as a movement, such as Elon Musk, Ray Kurzweil, Nick Bostrom, Max More, Natasha Vita-More, and Martine Rothblatt. Whether corporate, transhumanist, or biohacker, scientific initiatives against mortality feed on the same irrepressible faith in the limitless potential of human technical ingenuity that fuels the war on death. A robust literature tracks the aims of re-engineering humans into an existence of power and pleasure free from human vulnerabilities and limitations, from space travel to genetic engineering (Herzfeld 2009; Noble 1997). Institutional and corporate efforts to recreate the human experience free of human limitations have received some scholarly attention (Bialecki 2017; Foerst 2005; Geraci 2010). And the work of the members of the Mormon Transhumanist Association, and exchanges between Mormonism and transhumanism are being investigated at length by anthropologist Jon Bialecki (2019).²¹ In contrast, the

transhumanist pursuit of engineering divinity in extra-institutional settings, whether for salvation or to turn a profit (there is often little sunlight between the two in the American transhumanist context), has mainly been the province of journalists (Herwees 2017; O'Connell 2017; O'Gieblyn 2017; Popper 2012). Scholars of religion and anthropology have theorized transhumanism as primarily a form of existential coping (Cohen 2020; Huberman 2017; Singler 2019), with some authors considering it an expression of an immature comprehension of the human condition, a condition that benefits from suffering and mortality (O'Connell 2017; Tirosh-Samuelson 2018). Apologists for transhumanism emphasize that their predictions are reasonable, logical, mature, and supported by models that have successfully anticipated the pace of technological innovations (Hansell and Grassie 2011). Grinders bring trouble to all parties by providing evidence of affirming attitudes toward the human condition and sensory experience, the non-human world, skepticism regarding technocratic solutions, and limited interest or even antagonism toward immortality (Brickley 2019; Britton 2017; Doerkson 2018).

The war on death

Efforts by corporate agents and independent researchers, biohackers, transhumanists, enthusiasts, and fans to end death by technological means have been characterized as a 'war on death' (Dreyfuss 2017). This military phrase conveys the urgency of a war that must be won, or else in the losing will bring the consequences of total personal and collective annihilation. Transhumanist and former presidential candidate Zoltan Istvan preached the saving power of an unnatural world: 'If there was such a thing [as evil] it would be nature ... it's time to use science and technology to create something better.' Istvan participates in a crowded field of science boosterism, passing off pro-capitalist, anti-socialist, utopian, and paradisiacal dreams as grounded in 'science, technology, and reason' (Istvan 2019). Istvan's future imaginary exemplifies what environmental ethicist Lisa Sideris describes as 'an overtly human-centered and human-exalting worldview [that] is inimical to genuine appreciation, wonder, and concern for the natural world' (Sideris 2017:2). Whether in the congregational setting of the Church of Perpetual Life, or in the Enlightenment Salons of the US Transhumanist Party, the proponents of the war on death claim the forces of science and religion for their cause.

Enthusiasm and consumerism intensified by religious affinities are often tightly bound together in the work of agents in the war on death. For example, Dave Asprey is the founder of Bulletproof Coffee and the related

convention of the same name, a multi-million dollar business advertised as biohacking.²² His website blurbs Mark Hyman, a leader in the ‘functional medicine’ movement. Functional medicine exists in the nebulous cloud of complementary and alternative medicine, which often involves religious assumptions and commitments on the part of recommenders and participants (Brown 2013). Demonstrating the ability to court Christians and biohackers with similar language, Hyman co-authored *The Daniel Plan* self-help book with Megachurch pastor Rick Warren (Warren *et al.*, 2020), as a Christian lifestyle guide that makes similar promises of personal transformation to those made by biohacking companies such as Bulletproof. The very name ‘Bulletproof’ evokes Superman, promising that we can all become super-beings. Once the tools for perfection have been made available, are individuals who adopt them culpable when they fail to become perfect? As Carl Elliot observed, ‘Once self-fulfillment is hitched to the success of a human life, it comes perilously close to an obligation’ (Elliot 2004:303). Does that make those who abstain from the path of the superman traitors? Heretics? It certainly seems that way in accounts of disabled people who face pressure to norm their bodies when they refuse prosthetics or challenge their design (Weise 2019; Williams 2019). Analyzing collaborations between biohackers and religious influencers (Christian in this case, but not necessarily so) reveals how they concoct their pitches; methods matter when it comes to the social acceptance or rejection of technologies (Cole-Turner 2011), and those methods inevitably draw deep on wells of religious language (Singer 2017). Praising Asprey as the living template for biohacker aspirants, Hyman testifies that ‘his revolutionary advice will truly make you a healthier, better-looking, smarter version of yourself – we can all be bulletproof like Dave.’²³ In this one package of inter-textual support between Hyman, Asprey, and Warren, we see the dense bundling of religion, capitalism, ableism, hyper-masculinity, and exceptionalism that is characteristic of so much of biohacking. Asprey recommends those seeking the Bulletproof lifestyle should ‘attempt a Spartan Race, take a cold shower, try Rejection therapy, contemplate death,’ and meditate.²⁴ The contemplation of death as the great enemy is a key motivator for participants in the war.

Many of these ‘soldiers,’ like Asprey, trade in masculinized notions of toughness and grit that serve to accuse non-participants as much as they motivate those joining the war effort. These messages also trade on tropes of ruggedness as well as simplistic and dangerous notions of gender and disability.²⁵ DEFCON (named for the DEFense readiness CONdition alert system of the US Armed Forces) and the substantial presence of federal and state agents in the hacking scene contribute to the nationalist atmosphere.

Convention websites advertise presentations such as ‘Biohacking for national security,’ and members of the Defense Advanced Research Projects Agency (DARPA) are frequent participants in biological and computer hacking sessions.

As a project of individual salvation, biohacking media give the impression that individuals exceed, escape, or redeem the world by purifying themselves. Asprey claims to have cured his wife’s infertility through biohacking (Herwees 2017). In blended biohacker-Christian influencer language, the efficacy of the approach hovers indeterminately between having the right device or medicine or practice, or the right attitude. Christian language and aesthetics are not the only religious resources drawn on by biohackers and transhumanists. The authorizing figure of the oriental monk is a staple of the biohacking scene. This figure, and its role in cultural imperialism, is treated at length in Jane Iwamura’s *Virtual Orientalism*. The oriental monk brings authority merely by reference or analogy, made possible ‘because a mass audience is less concerned with the distinctiveness of the figure or the religious tradition he represents than with the desires the iconic figure meets and the operations he performs’ (Iwamura 2010:161–2). Profiteers wrap the mystique of the oriental monk in the thinnest cellophane of scientific justification; for example, breath-control guru Wim Hof, who teaches repackaged Tibetan meditation for those seeking to become impervious to the elements²⁶ and Asprey’s bulletproof coffee, flavored with the image of Tibetan monks.²⁷

In Silicon Valley, the giants struggle against death, convening research units and doling out enormous sums for a ‘video game-style quest to end death’ (Dreyfuss 2017). These financiers of the war have been on a quest for utopia for decades (Turner, 2006), and should be read as carrying with them ‘the Puritan notion of exodus, of relocating to new shores, to protect the flock from the unfeeling, unthinking horde of the unredeemed. To build a shining city on a hill. Or in a valley, as it were’ (Rhode 2017). Apple CEO Steve Jobs prophesied, ‘The biggest innovations of the 21st century will be at the intersection of biology and technology,’ proclaiming a new era shaped by the fusion of metal and flesh (Boss 2020a). To manifest a new era, to inspire investor buy-in and convince resisters to sell-out, the heralds of technologically facilitated salvation promise thrilling and immanent change. A hip new reality. ‘Yet their idea of hipness turns out to be, well, just like them’ (Rhode 2017). The technocrats of the Valley see themselves as pioneers, or saviors to a broken world, while they go on breaking it and calling it innovation.

Beyond Silicon Valley, transhumanism as a political movement looks to the stars for an immortal abode. This predictable trajectory

for technologically based quests for perfected existence results from, in David Noble's view, a misguided pursuit he calls the religion of technology (Noble 1997). Noble's concern that religious pursuits mistakenly seen as technological projects lead to anti-human and hubristic ventures appears validated by the work of Zoltan Istvan, who founded the US Transhumanist Party to bring the war on death to the US electorate. Istvan's writings convey an urgent need to win the war on death as soon as possible, accepting nearly any cost in the prosecution of final victory. For Istvan, winning the war on death is of such overriding importance that the sacrifice of every ounce of matter on the surface of the earth would be a worthwhile cost to pay, in order to secure victory over the reaper.²⁸ Istvan's complete rejection of the sacredness of the earth and nature, and willingness to render it all down for the elixir of immortality, exemplifies Noble's anxiety that technologically facilitated salvation is a mechanism for turning attention away from the immediate sufferings of the world toward imagined transcendences. Assuming leadership of the party after Istvan's departure, Gennady Stolyarov II seeks to cultivate in the very young an intense antagonism toward death. To that end, he and illustrator Wendy Stolyarov produced a children's book to teach young people about the 'greatest enemy of all of us,' death. The book encourages young readers to imagine that 'maybe the person who will conquer death ... is you!' (Stolyarov 2014). The war on death is a blurring of the physical and spiritual security of the individual citizen and the security of the nation. The Transhumanist Party offers a vision of a stronger United States, while its prominent figures see security as radically individual, secured by technical mastery and once secured, independent of the Earth and its conditions.

Technical mastery

The theme for the Biohacking Village at DEFCON 2017 was 'Disrupting the medical industry.' In Las Vegas casinos, those spaces of opulence and poverty where gold-plated lions loom over the unhoused, and fountains spew endlessly in desert palaces, grinders shared crowded rooms and pooled resources to be able to attend events at the Biohacking Village, where papers, panels, and presentations focused on the chemical and mechanical alteration and augmentation of the human body.²⁹ Hackers took aim at the ways medical research, technology, and intellectual property alienate and disempower people. But the language of rebellion, independence, and liberation from tyranny, all cherished American virtues, was also used by speakers who made the Village a platform for marketing pitches. Technical

mastery seemed to be the generally understood cure for all our ills, bodily and social.

Profiteers profit from selling hope. Representative of the profiteering mode was a talk exhorting the audience to see themselves as the CEO of their healthcare. This involved the pillorying of medical expertise and doctors, insisting that the consumer knows their own body best. Profiteers seize on the reality that people seeking care are frequently required to educate clinicians (Haagaard 2021; Pearlman 2021), and use it to further naturalize healing as a profit-seeking industry. Such pitches are common in the biohacking world, and they share characteristics with self-help and alternative healing movements. Typically, the speaker discloses a heart-felt and relatable story of being utterly failed by the medical-industrial complex. The speaker's life was devastated by undiagnosable and untreatable miseries, which were eventually resolved through the therapeutics they have brought before you today. In experiencing such scenes, I am deeply sympathetic to the suffering disclosed by the speakers, and I feel in angry solidarity with them over the many failures of healthcare in the United States. I am also ready for their pitch. In this case, the speaker, who claimed to have achieved radical improvement through personalized medicine, insisted that what would obviously be best for the consumer-patient would be a cornucopia of expensive miniaturized medical devices, which would render clinics obsolete. The body in the language of CMF is nature in the crosshairs of science, something from which we can pry the truth by force (Arendt 1998 [1958]) and purge with the right technologies (Haagaard 2021). In Corporate Medical Futurism, exorbitant medical costs are naturalized, and the best care is only for the wealthiest. Corporate Medical Futurism downplays the expenses and limits on access, presenting a hopeful picture of a world elevated by highly personalized technologies of healing and relief. We might call the CMF approach Anthropocene Medicine, predicated on domination, global in scope and impact, encouraging people to distrust experts and dismissive of danger and systemic inequalities.

The language of the agents of CMF at DEFCON was also colonial – in attempting to show a spirit of goodness, charity, and compassion, they spoke of a generic 'Africa' imagined as the recipient of fleets of high-tech medical drones that could 'spare' Euro-American doctors from having to go to the dangerous 'there' to deliver medicine. References to an undifferentiated and generic Africa function as a synecdoche for the world not yet pacified by corporate futurisms. When biohackers deploy imaginal histories that locate Africa and outer space at opposite ends of a progressive evolutionary trajectory, they broadcast the message that the future is not African.

Black biohacker and artist Fannie Sosa draws attention to the persistence of settler-colonial thinking in technological imaginaries and histories that participate in the ‘systematic erasure of Black and Indigenous knowledges’ (Sosa 2017). Accounts such as sanitized histories of gynecology omit formative brutalities and pre-existing practices of cultivation, reproduction, and fortitude that draw upon music and dance, loa and orixás. ‘Do not make me mad with your white washed cyborg bullshit,’ writes Sosa. ‘Black folx have been on that biohack.’³⁰ Like Sosa, theologian Philip Butler emphasizes the deep histories of Black spiritualities and their qualitative utility, and proposes transhuman and cyborg futures not grounded in mastery, extraction, and Eurocentric epistemologies (Butler 2020).

Biohackers are divided over affirming the human condition and human existence, or centering the human body as a collection of frailties and insufficiencies which must be overcome through technical mastery. This theme of mastery, of taking control of our bodies through emerging technologies, is a uniting factor among biohackers seeking corporeal domination and CMF. The rejection of natural limits is foundational in transhumanist thought and practice. Corporate Medical Futurism and mastery-oriented grinders share a project focused on self-perfection and individual expression. Both strands are motivated by a merging of science and spirituality. The religious underpinnings of the transhumanist project unite potentially opposed versions of transhumanism, and this union presents certain threats to egalitarian visions articulated within the grinder movement.

What exactly is wrong with having a human body? Representative of biohackers and grinders who approach the body in terms of mastery, Tim Cannon of Grindhouse Wetware (a prominent biohacking and transhumanist organization in Pittsburgh) argues that pursuing the transhumanist vision is a moral obligation grounded in sober consideration of the human capacity for ethical cultivation and conduct. Biology, Cannon claims, is poor soil for the cultivation of ethics and morality.³¹ Biological life forms are enslaved to their biochemistry. They are, we are, incapable (in this transhumanist view) of breaking free from our instinctual and chemical impulses in sufficient numbers and with sufficient persistence to make global scale ethical overhauls possible. It is not that ethical behavior is impossible in humans, but rather, Cannon argues, that virtuous beings should be seen in the same way that we see prodigies who can play beautiful symphonies by age 11. What made Mr Rogers, the gentle, wise host of the Public Broadcasting Service’s children’s show *Mr. Rogers’ Neighborhood*, stand out, if not his overwhelming goodness? When merely being consistently good is considered remarkable, this is the indicator of a profoundly compromised society, or in Cannon’s view, species. He declares

that all teachings, all ethics, all virtue, all religion represent failed methods of cultivating widespread moral and ethical behaviors, values, and orientations in biological beings. Biology, he argues, was never capable of being the substrate on which we could build truly equitable societies. More than that, Cannon wants to place immense power into the hands of every person – the power to survive in outer space without a space suit, the power to change our bodies at will, to look however we like, to be whoever we want, to do anything. Biology, Cannon claims, will not allow us to hold all of that power and be ethical in its use (history is his evidence). Biology must be discarded in favor of the purifying logic of pure computation. He calls this escape from the limitations of the human body a moral imperative. With our minds translated into bodies of metal, ceramic, and wiring, our emotions and biochemical impulses will no longer be in control. We will be pure potential. By mastering our bodies, we will become the masters of the universe. Far from being all there is, in Cannon's vision the earth becomes a passing stage in a techno-religious quest, a stepping stone or impediment to be overcome and abandoned. In short, twisting Stewart Brand, to become as gods; and we had better get good at being gods, or make ourselves good.

Cannon's teleology of a perfected dweller or colonist of the cosmos, ordering their world through god-like capacities, is a common transhumanist ambition (Boss 2020b). Religion is characterized by Cannon and many transhumanists as a primitive psychological component of a species still in the early stages of its development, one that along with our insufficient bodies will be transcended through technical advancements. Some transhuman organizations such as Terasem acknowledge that their projects use technological means to pursue religious ends and create religious organizations to support their goals. Others, whether acknowledging or denying that their projects can be understood as religious, predict in the ultimate flowering of techno-utopianism a religion that ends religions.

Some biohackers appear to be espousing a classic global rehabilitation project in the tradition of UNESCO, a post-war project of global salvation through collective evolution and science literacy. The cosmic and otherworldly vision of transhumanism owes much to the work of Jesuit priest and philosopher Pierre Teilhard de Chardin (d. 1955), and evolutionary theorist Julian Huxley (d. 1975). When transhumanists speak of evolving in order to leave the world behind for a cosmic existence, they are echoing Teilhard's teleology, but their anthropocentric and secularizing imaginings create weird disharmonies, or even idolatries. In Teilhard's Christocentric thinking, he perceived a universe evolving toward the Incarnation. In Teilhard's God-saturated cosmos, God moves toward God.

Even when futurists such as Martine Rothblatt and Hans Moravec³² explicitly acknowledge Teilhard's influence, they refrain from engaging with its christological foundations and fulfillment. Teilhard does not imagine an atheist techno-paradise, or a future where technologically liberated cosmic dwellers become a new Olympian pantheon using power to satisfy their whims. For Teilhard, humans fulfill their destiny by leaving earth to enter the cosmic Christ. Transhumanists in the lineage of Ray Kurzweil argue that the universe is waiting for us to wake it up. Their model of cosmic expansion is (trans)humans moving toward inanimate matter. They rise not toward a universe pervaded by divine love but by mindless substance. His disciples will throw themselves into the dark vacuum between stars to fill it with their ego.³³

Whether in union with the cosmos, or abiding as immortal and unbounded machine consciousnesses, transhumanists imagine ends for humanity. This end is sometimes presented as something to be desired, and sometimes as something to be feared. For example, in *Apocalyptic AI* (2010), scholar of religion and technology Robert Geraci shows how some transhumanists imagine that the near future will involve a key moment of crisis in human–robot relations that will ultimately lead to the end of humanity as we know it. In this prediction, humans will be forced to choose between becoming augmented beings who can compete with robots and other augmented humans, or being left behind. Geraci and Noble, Cannon, Moravec, and Kurzweil all provide rich examples of teleological and eschatological visions within transhumanism, and as Cannon shows, biohackers and transhumanists are also concerned with failure, suffering, and all the undesirable things that humans are capable of. Failure and hope are key pivots around which biohackers and transhumanists navigate a conviction that the future is entangled with technology, and that this deepening entanglement will lead to a necessary reconsideration of what it means to be human.³⁴ This conviction is not exclusive to the elite, it also informs grassroots biohacking and grinding. For example, in a poetic invitation, Mixael Laufer of the Four Thieves Vinegar Collective, which provides educational schematics for functionally similar versions of expensive medical devices that could be produced inexpensively in home settings, calls their community ‘a tribe of spiritual orphans’ united by modifications of the ‘corporeal or spiritual self.’³⁵

Cyberpunk humanism

After DEFCON, in online forums and at in-person conventions, I met grinders who helped me to understand the diversity of views within their

movement. Cannon's view of grinding and biohacking, so consonant with the structure of the war on death and transhumanist anti-death politics, was far from universal among grinders. At events across the United States, grinders and biohackers have generously shared their time and their spaces with me, teaching me how to solder, placing me at the center of a water-filled iron tub wrought into sacred geometries called a cymatic yantra,³⁶ disclosing their hopes and fears, and the fierce love of their emerging community that inspires them to continue to congregate despite the many difficulties of doing so. The grinders are not a hidden community exactly, one of their annual gatherings was featured in the *New York Times* in 2018.³⁷ The general membership remains outside the media eye, which has remained fixed on a small group of enthusiastic 'front men' such as Rich Lee, inventor of the Lovetron 9000 erotic implant, and Meow-Ludo Disco Gamma Meow-Meow, whose transfer of a transit payment card chip into his hand landed him in an Australian court (Bromwich 2018; Griffiths 2018).

Grinding, like transhumanism at large, is overrepresented in the media by men, but grinding has a genderless progenitor (Lepht Anonym told me, 'This is obviously a female body, but fuck gender, man'), and the movement relies on the organizing skills, labor, and funding of cis women and trans people who provide the programming, website management, and project management skills to maintain and sustain the movement, its infrastructure, and ambitions.³⁸ Nonbinary machinist Hylyx builds for the community, and can fit an extraordinary number of glowing and transmitting implants in their bodies for testing. The organizational genius of Cyberlass keeps GrindFest functioning and attendees alive, yet she has escaped notice as one of the beating chambers in the heart of the community. In his ethnography of the grinders, Mark Doerkson notes the community circa 2014 was becoming 'increasingly populated by women, transgender, and gender-neutral identities' (Doerkson 2018:4). I observed something similar, although often it was through already diverse, geographically distributed, grassroots groups becoming aware of each other.

The grassroots projects I observed frequently evinced an artistic, humanistic, and egalitarian punk approach to life and community. At 'Please try this at home,' an anarchist, trans, queer, and disabled hacker-led unconference in Pittsburgh, 2019, biohackers, makers, and grinders practiced and shared cultural resources as much as they did technological ones. The conference, with no formal leadership structure or funding source, in space donated by an LGBTQ service organization, exceeded all other conferences I have attended in following through on anti-oppressive and liberation-focused commitments. There was an accessibility co-ordinator on call, a de-escalation specialist on call, a space for low sensory stimulation,

sign language interpretation provided by tandem Deaf/hearing teams, and a Black and Indigenous rest space run by Black Dream Escape. Food was donated, attendees made the conference schedule together from movable paper sheets covering one wall, they set up, cleaned, and rearranged as needed. For three days, no one tried to sell me anything. I once asked how much some pretty stickers were at a station that read to my mind like a vendor table, only to be met with kind laughter and encouragement to take whatever stickers I fancied. I was party to many heartbreaking conversations about the struggles of attendees to get access to school, medicine, safe living environments, and to spaces and materials for doing their work. The action of attendees was directed at liberation, not optimizing for neoliberalism. The 'Please try this at home' website declared, 'We are explicitly and perpetually striving to be anti-racist, anti-sexist, anti-ableist, anti-capitalist, queer and trans as fuck, sex-positive, body-positive, anti-corporate, & anarchist.' Reflecting on our experience in Pittsburgh, grinders shared that they had perceived an effervescent air that crackled with possibilities.³⁹ In their brief gatherings scattered across calendar and country, grinders experienced tastes of other possible worlds where freedom was understood not in absolute terms but as a continuous co-construction (Boss 2020b).

After the sweet days of 'Please try this at home' and Grindfest, attendees returned to the familiar pressures of their lives. The costs of housing, life-sustaining medicines and technologies, food, transportation, and education were all arguments for selling out. 'He's another broke biohacker' was the explanation when I asked about the slow progress of a certain home genetics lab. The punks of biohacking struggled with questions such as: does the free distribution of ideas and technologies mean at no cost? Or does it mean a free market, with refinements to economies and intellectual property law? (Coleman 2013; Delfanti 2013). Selling out can bring real material improvements in a person's condition. It can also be incompatible with the world one wants to live in.

Lepht Anonym's children, like their progenitor, countered the war on death with a celebration of life. 'Humans are fundamentally good. Humans are fucking amazing,' Lepht declared.⁴⁰ This did not mean they were enthusiastic about dying, although some grinders told me they did not see living forever as desirable. As conscientious objectors to the war on death, they resisted being sucked into the debate between, on the one side theologians and scholars who insisted on the importance of mortality and limitations, and on the other transhumanists who centered futurity on immortality and limitlessness (Hansell and Grassie 2011). Instead of rejecting the human condition, they embraced it. 'One thing that's true is that I'm human and that one of the things I value above all else is the capacity for human

expression,’ said Jame, a young trans grinder – who had taken Lepht’s advice and fled the ‘normal people’ world of venture capital and disability dongles.⁴¹ ‘I will always be human,’ shared an older grinder, still mending from their latest experiment. ‘Even if I become a spaceship.’ Contrary to the centrality of immortality in transhumanism, and the dominance of death anxiety management in scholarship on transhumanism, many grinders, including Lepht and Hylyx, told me they either did not want to live forever, or expected to die before the invention of dramatic life extension technology. Those grinders did not view meaningful living as contingent on either never dying or on assurances of being returned to life. If you want to live forever, don’t bother the punks. But if you don’t want to wait for profiteers to develop the future and sell it to you on subscription, they’re holding a place for you in the junkyard.⁴²

About the author

Jacob A. Boss is a doctoral candidate in the Department of Religious Studies at Indiana University Bloomington.

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Notes

- 1 Dave Asprey, the founder of Bulletproof coffee, intends to ‘die when I want’ (<https://www.businessinsider.com/bulletproof-coffee-ceo-dave-asprey-wants-to-hack-death-2016-4>). Peter Thiel, of Paypal and Palantir, has denied claims that he is a vampire (<https://www.independent.co.uk/life-style/gadgets-and-tech/news/peter-thiel-vampire-donald-trump-life-extension-blood-transfusion-ambrosia-palantir-a8614061.html>), but there is evidence that the chief medical officer of Thiel Capital expressed interest in the treatment (<https://gizmodo.com/some-one-is-trying-to-discredit-the-story-of-peter-thiel-1796135794>). The injection of healthy young blood has garnered some interest (<https://www.scientificamerican.com/article/young-blood-transfusions-are-on-the-menu-at-society-gala>). Martine Rothblatt of Sirius Radio and the self-founded Terasem religion advocates for the transcendence of death through mind uploading (<https://www.washingtonpost>).

- com/lifestyle/magazine/martine-rothblatt-she-founded-siriusxm-a-religion-and-a-biotech-for-starters/2014/12/11/5a8a4866-71ab-11e4-ad12-3734c461eab6-story.html
- 2 DEFCON is divided into themed villages that organize their own activities and presentations, sometimes described as conferences within a conference.
 - 3 'A cyborg celebrity in the DIY biopunk scene' (Brickley 2019:17). I asked Lepht during our interview in Pittsburgh in 2019 how it felt being a celebrity and figure of inspiration. 'It's not uncomfortable,' Lepht told me. 'It's just super weird.'
 - 4 Lepht Anonym, 'Cybernetics for the masses.' <https://www.youtube.com/watch?v=APOAmxFEMkQ>
 - 5 The EPA (Environmental Protection Agency) and bioethicists are the bogeymen of biohacking.
 - 6 On crystallization, see Samantha Rose Hill, 'Reading Arendt now.' <https://www.samantharosehill.com/writing-page/reading-arendt-now>
 - 7 Bey's use of fugitive draws in a constellation of influences, especially Fred Moten and James Baldwin. Fugitivity 'marks a kind of outlawish indiscreet disavowal of and disengagement from the project of hegemony' (Bey 2019:15–35 'Them Goon Rules').
 - 8 The anarchist band Chumbawumba accepted money from GM for use of their music, and they delivered the money to anti-GM organizers. <https://www.theguardian.com/uk/2002/jan/27/davidrowan.theobserver>
 - 9 The register has a substantial archive of sensationalist observations on Warwick's career (https://www.theregister.com/2012/07/26/captain_cyborg_gong).
 - 10 Lepht Anonym, 'Cybernetics for the masses.' <https://www.youtube.com/watch?v=APOAmxFEMkQ>
 - 11 London Brickley (2019) reported that grinders are named for the video game activity of 'grinding' through game tasks. This may be an example of how grinders develop different etymologies for their movement, or the source may have been mistaken. In interviews, I heard several complaints about confusion generated from the similarity of their name to the popular gay dating app Grindr.
 - 12 Terasem is a religion founded by Bina and Martine Rothblatt. Terasem was inspired by Octavia Butler's (1993) *Parable of the Sower* and pursues the end of death through the digitization and uploading of the human mind to a computerized substrate.
 - 13 For studies on Protestantism in US diet and fitness culture, including nominally secular movements, see Rifai (2020a, 2020b).
 - 14 'The DEFCON Biohacking Village is a multi-day biotechnology conference focused on breakthrough DIY, grinder, transhumanist, medical technology, and information security along with its related communities in the open-source ecosystem.' <https://www.defconbiohackingvillage.org>
 - 15 "It's obviously targeting me," says Zayner, an outspoken biohacker.' <https://www.technologyreview.com/2019/08/09/65433/dont-change-your-dna-at-home-says-americas-first-crispr-law>
 - 16 Do-it-yourself biology, another of the terms used in the polyonymous biohacking scene.
 - 17 Greenstone's illustrated visit to BDYHAX is the next best thing to having been there to experience the tectonic energies of the conference. <https://thenib.com/body-hackers-conference>

- 18 See <https://taibbi.substack.com/p/meet-josiah-zayner-americas-most>; <https://www.theguardian.com/technology/2021/dec/06/rohingya-sue-facebook-myanmar-genocide-us-uk-legal-action-social-media-violence>; and <https://www.nytimes.com/interactive/2019/06/08/technology/youtube-radical.html>
- 19 Scholars and authors such as Ruha Benjamin, Tressie McMillan Cottom, Safiya Umoja Noble, Virginia Eubanks, Austin Channing Brown, Marquis Bey, Anthea Butler, and Philip Butler have written extensively on the constitutive prejudices encoded in technologies and institutions.
- 20 See Cohen (2020), Farman (2020), and Bernstein (2019) for bibliographies regarding the transhumanist pursuit of immortality.
- 21 A book-length treatment of the subject by Bialecki entitled *Machines for Making Gods* is scheduled for release in 2022.
- 22 See <https://www.forbes.com/sites/meggentaylor/2018/09/06/bulletproof-the-multi-million-dollar-empire-that-bio-hacking-built>
- 23 See <https://www.blackstonelibrary.com/the-bulletproof-diet?sp=51118>
- 24 See <https://fanniesosa.com/Blog>
- 25 One blogger from the Living Proof Institute covering the Bulletproof 2016 Convention concluded that to live the Bulletproof lifestyle one must understand the 'opposite sex,' which can be accomplished by reading John Gray's (1992) *Men Are From Mars, Women Are From Venus*. <https://thelivingproofinstitute.com>
- 26 In the grand tradition of repackaged practices extracted from religious contexts, Hof claims that his method is 'comparable but different,' having 'no religious components.' <https://www.wimhofmethod.com/tummo-meditation>
- 27 Iwamura notes the fashionable status acquired by the Tibetan monk, following the prominence of earlier figures such as Maharishi Mahesh Yogi.
- 28 See <https://zoltanistvan.medium.com/environmentalists-are-wrong-nature-isnt-sacred-and-we-should-replace-it-b5a0de6444cb>
- 29 See <https://www.defconbiohackingvillage.org>
- 30 Retrieved 1 May 2016 from <https://twitter.com/fanniesosalove/status/726729136912359424>
- 31 Tim Cannon, 'The moral imperative of biohacking.' <https://www.youtube.com/watch?v=gfbDUzs8cM>
- 32 Hans Moravec is the author of *Mind Children* (1988).
- 33 US Transhumanist Party director of scholarship Dr Dan Elton, staff scientist at the National Institutes of Health, credits Kurzweil with a prophetic influence in spreading transhumanism to his generation. Kurzweil is a Google director of engineering and the author of works such as *The Age of Spiritual Machines* (1999) and the 'US Transhumanist Party virtual enlightenment salon: Debate on transhumanism, science, and faith,' June 28, 2020. <https://youtu.be/ckNwlc1gOcQ>
- 34 Cohen (2020) explores the role of hope in cryonics at length.
- 35 See <http://russfoxx.com/cyborg>
- 36 See <https://www.sitonyantra.space>
- 37 Alice Hines and photographer Arden Wray have done a service to the study and archiving of grinder gatherings, although no grinder calls what they do medical punk. <https://www.nytimes.com/2018/05/12/us/grindfest-magnet-implants-biohacking.html>
- 38 Interview with Lepht Anonym, Pittsburgh Pennsylvania, 2019.

- 39 'A day will come when our societies will know again those hours of creative effervescence, in the course of which new ideas arise and new formulae are found which serve for a while as a guide to humanity.' (Durkheim 1995 [1912]:427).
- 40 Interview with Lepht Anonym, Pittsburgh Pennsylvania, 2019.
- 41 'Disabled people, meanwhile, roll their eyes at what disability advocate and design strategist Liz Jackson terms a 'disability dongle': 'A well intended elegant, yet useless solution to a problem we never knew we had.' <https://www.vox.com/first-person/2019/4/30/18523006/disabled-wheelchair-access-ramps-stair-climbing>
- 42 'Watching commercials for vitamin pills on TV and thinking you need a mad scientist's lab to be a transhumanist? You don't. I've got no money, talent or backing. You just need curiosity and the willingness to withstand some pain. Turn off the TV. Pick up that needle. Come to the junkyard.' Lepht Anonym, 2010. <https://hplusmagazine.com/2010/02/11/scrapheap-transhumanism>

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