

Techno-Utopia / Techno-Dystopia: Writing the Future of Cyber-Technology

by

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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

Will cyberspace ever become truly inhabitable, and if so, what kind of political climate will be present there? By investigating emergent discourses surrounding the future of cyber-technology, I reveal how online users are actively engaged in the preemptive literary construction and interpretation of a not yet realized cosmopolitics of virtual spaces.

Additionally, I argue that futurism online constitutes the emergence of a novel form of real-time genre fiction intertextually linked to more conventional forms of science fiction that interpenetrate both public and academic discourses and interpret cyberspace as a source of either boundless freedom or potential dystopia.

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Chapter 1

The Future of Cyber-Technology as a Public Concern

In September of 2013, the *New Yorker* ran an article titled “How Today’s Computers Weaken Our Brains”. Inside, Tim Wu explains that although modern computers offer a plethora of novel experiences, they have come at the expense of our creativity. The act of computing, Wu believes, tempts us with far too many distractions to truly facilitate productivity. Our brains are too vulnerable, too monospecific, and too undisciplined to weather the onslaught of omnipresent information whirring past our dumbstruck eyeballs. In short, with the proliferation of technological conveniences, we have supposedly lost the ability to think beyond easily digestible morsels of infotainment. Even Kafka, Wu speculates, may not have fully blossomed as a writer in today’s climate of fast-paced, superficial information overload (Wu 2013).

On the other side of the spectrum, Lumosity—a company dedicated to researching neuroplasticity and developing online games to improve certain aspects of cognition—proclaims that computing technologies can be harnessed to improve our memory and focus rather than detract from them. Smart phones and smart watches track the number of steps we take in a day and chart them alongside our daily caloric intake. Taking your phone to bed can, with the assistance of certain applications, detect the quality of your sleep by registering nightly tossing-and-turning using your smartphone’s accelerometer. The internet of things has promised us a world of statisticalized self-betterment and unprecedented self-insight, all running silently in the background. Whatever comes our way, Apple has reassured us that “there’s an app for that”. Sharing our patterned secrets and the dimensions of our digital fingerprints has become second nature, and yet, our voracious appetite for digitally mediated existence is underscored by the looming threat of surveillance, privacy loss, and social decline. We are confronted with a certain technological ambivalence: equal parts love and fear of the computer, cellphone, tablet, and smart watch. In the post-Snowden era of computing, we are also forced to consider the political implications of our online presence. On one hand, we are aware of online surveillance and of the hidden eyes that track our movements through cyberspace; we are aware that the state has its stethoscope pressed against our touch-capacitive screens. We know who might be interested in what sites we patronize, the products we examine, our political and sexual orientations, and,

perhaps most ominously, the words we say to one another when we choose to believe that no one is listening. Even still, we watched with excitement as Twitter became the medium through which the youth of the Arab Spring and the Hong Kong protests expressed their discontent. Twitter has become an unlikely representative of free discourse, non-partisan news, and instant unfiltered access and membership to a new global reality.

Why is our relationship with technology so fraught with ambiguity? Why is the very notion of emergent technology so inexorably linked to narratives of both ascension and decline? My research takes up this question and seeks to uncover the ideological structures that underpin our relationship with the technosciences, and the archetypes through which we discuss the the future of technology. My analysis begins with a look at the ways in which anthropologists have dealt with questions of self-hood amidst an uncertain terrain of technohybridity, biosociality, and technologically wrought ontological disjunctures. I argue that these “cyborg anthropologies” adhere to an eschatological metanarrative of subjective crisis brought-on by an increasingly boundaryless relationship between technology and human biology. Additionally, I argue that this meta-narrative is not only present in academic work aimed at dissecting the sociological implications of new technologies, but also within the public sphere wherein it shapes the ways that new and future technologies are interpreted, anticipated, and incorporated into culture frameworks. By looking at how high technologies are discussed by both academics and the public, I point towards a series of scholarly and literary intertextualities that enclose the trajectory of discourse about the future of cyber-technology. Drawing from the work of Donna Haraway, Benjamin Bratton, Jean Baudrillard, John Perry Barlow, and William Gibson, I attempt to show that our cultural ideas about the future of technology are best perceived through the contradictions that come into resolution at their ideological margins. I trace these contradictions from Haraway’s vision of a feminist technoscientific revolution to the emergent cosmopolitics of an imagined cyberspace actively written into being by participants in online fora.

The ideological undercurrents that inform our interpretation of new and future technologies represent an important public issue. Not only does our anticipation of future technology determine the direction of future research and development, but also our interpretation of existing technological forms and the post-humanisms that they ostensibly

foreshadow. The future looms over our decisions about what technologies we are comfortable incorporating into our daily routines and what interventions we are willing to permit into our bodily perimeters. Referencing Freud's three narcissistic injuries, Benjamin Bratton, the former director for the advanced strategies group at Yahoo!, has referred to the emergence of cloud infrastructures as the onset of a new Copernican revolution. According to Bratton, cloud infrastructures place us on an irreversible trajectory towards geopolitical upheaval and the reconfiguration of state sovereignty (Bratton 2012). Ray Kurzweil, the current director of engineering at Google Inc. has discussed how the exponential returns of Moore's law will undoubtedly lead to the development of computers that exceed human intelligence. Eventually, he predicts, this increase of computational capacity will result in a single moment at which all knowledge will come to be known at once: the singularity (Kurzweil 2005). Such predictions not only anticipate a certain kind of future, but they also take our current use of technology as directly evidencing its possibility. We are compelled by these visionaries to view the technologies of the present through the lens of the future. The smartphone today is, in fact, partly the smartphone of tomorrow. Or so it promises.

My project thus constitutes an anthropology of futurism and an oblique look at how socially-constructed ideas about the future have come to structure our understanding of existing technologies and the embedded cultural notions of selfhood that contest. By lurking in a variety of online communities—most contained under the wide umbrella of Reddit.com—I reveal how interlocutors discuss the future of technology and how they, through the active production of real-time science fiction, envision themselves within an newly dawning age of virtual primacy. My research reveals how individuals discuss cyberspace as a place of potential boundless freedom, yet one that is under active threat by political or corporate interests. Additionally, I show how discussants presume a future of technological advancement wherein cyberspace will become fully inhabitable through the production of neuro-computer interfaces. Here, the fears and hopes associated with our ambivalent cultural perceptions of high technology step out into full view: neuro-computer interfaces present us with benefits conferred through disembodiment (the circumvention of illness, disabilities, and death etc.), but also the terrifying possibility of hackers assuming control over uploaded minds, or spooky encounters with computational entities

from beyond the grave. Currently about nine billion devices are connected to the internet; with a projected 40 billion across the globe set to assume connectivity by the end of the decade, our fears and desires seem destined for proportional expansion (Evans 2012).

Chapter 2

Writing the Future of Cyber-technology

2.1 Our Cyborgian Antecedents

Nearly twenty-five years after the fact, in what ways is Donna Haraway's *Cyborg Manifesto* (1991) still relevant? Surely, such utopian projections must be seen, in some sense, as untenably naive. Taking inventory, no feminist technoscientific revolution has come to fruition. No angelic trumpet has announced the arrival of the post-Oedipal apocalypse. A single adjective to describe *the human* will still not suffice; the *other* and its *other* have not yet been united in synthetic homogeneity. As Zeynep Tufekci has noted, the limitations of the keyboard interface have precluded any true ontological disjuncture between the organic and the techno-hybridized subject. The rhetoric of technological post-humanization is, she claims, equally applicable to the emergence of writing, the telephone, the cave painting. Extending the capacity of the mind beyond the perimeter of the body is nothing new. If we are posthuman now, it is because we always were (Tufekci 2012).

And yet, the notion of a cyborgian apocalypse still persists across a variety of scholarly and non-scholarly discourses. Even Tufekci, who so thoroughly condemns the post-human assumptions held by her contemporaries, still invokes the spirit of Haraway by questioning what reconfigurations of humanity will be made possible by future cyber-technologies (Tufekci 2012). An overturning of the current technological order is perpetually spotted just-over-the-horizon, but never seen arriving. Indeed, the future of technology seems to carry with it the notion that something fundamental about humanity—sociality, culture, biology—is under siege. In the space that follows, I unpack these eschatological narratives and reveal some of the ways that they inform current discourses on the future of cyberspace, and how they underpin the construction of a preemptive cosmopolitics of *the virtual* that ambulates between techno-libertarianism and techno-dystopia.

This dialectical relationship between emancipation and an subjugation at the hands of technology is embedded deep within scholarly and literary discussions pertaining to the emergent and imagined futures of cyberspace. Twitter culture has given rise to what Tufekci has called “networked microcelebrity activism” as a form of civil disobedience (Tufekci

2013), but has also generated new axes of power along which state and corporate entities survey, manage, and produce populations of voter/consumers (Tufekci 2014). The polarized centrum of Tufekci's argument points towards an online climate structured by the very tensions that define its perimeter. To quote: "[the] emergence of networked technologies instilled hopes that interactivity in the public sphere could help limit, or even cure, some of the ailments of late modern democracies [...] however, [the] Internet's propensity for citizen empowerment is neither unidirectional, nor straightforward. The same digital technologies have also given rise to a data-analytic environment that favors the powerful, data-rich incumbents, and the technologically adept, especially in the context of political campaigns." (Tufekci 2014:3). David Lyon's work on electronic surveillance expresses similarly polarized sentiments. His research shows how the surveillance of both online and offline activities has become a major source of our political anxieties, yet offers us salvation from some of our deepest fears. We consume and employ surveillance to manage our lives and economies, and yet it stalks our footprints in the vague interest of national security (Lyon 1994; 2003). Beneath Tufekci and Lyon's analyses lurks a covert prophecy. Indeed, their conclusions seem to invite the reader to speculate not only about the current techno-political climate, but one that has yet to emerge. In the post 9-11, post-Snowden reality of omni-surveillance and unwelcome intrusions, the computer plays the role of both saviour and Judas, but can this ambulatory status truly be dissociated from the slippery slopes between which it is balanced? Edward Snowden's greatest contribution to public discourse was not the uncovering of unconstitutional surveillance practices, but the privileged glimpse he provided into a potential Orwellian nightmare. In contrast, thousands of tweets explode from Hong Kong and inch the protest forward. Tweets cannot be jailed, tortured, or followed home in the middle of the night. Cyber-communications have become a symbol of freedom and membership to a newly emerging global community, imagined or not. Inevitable democratization seems to have been identified in its very structure. In his book *The Sublime Object of Ideology*, Slavoj Žižek points out that historical inquest does not consist of a methodological uncovering of the past, but rather, its contemporary construction in light of the present (Žižek 1989). Here, perhaps, we are witnessing the assembly of the present in light of the future.

In their seminal paper *Cyborg Anthropology*, Gary Lee Downey, Joseph Dumit, and Sarah Williams describe a new form of interdisciplinary analysis aimed at contesting the division between human and machine (Downey *et al* 1993). Despite their commitment to cataloging the inherent potential of technologies to construct *the human* in their image, the ideological underpinnings that imbue technologies with certain transformative potentials over others goes largely unexamined. It is worth asking in what ways the cyborgian interpretation of technoscientific intervention into human subjectivity is culture-bound and, in itself, a reflection of a deeper ideological presence. If the critical *modus operandi* of cyborg anthropology is understanding the sociological potential of emergent technologies and their place within an existing social milieu, how then can we account for the ideological potency of future technologies that have not yet been developed? Rather than seeking to understand the “deep play” concealed within the cultural practices that foreground the interpretation of current and future high technologies, STS scholars have turned their gaze towards the networked agency and co-productive power implicit within extant technological forms (Lock and Nguyen 2011). In doing so, they have ignored the fact that the transformative power of novel technologies sometime precedes the technologies themselves. The early research and development of Oculus Rift—a virtual reality headset worn over the eyes— highlights this phenomenon well. My own ethnographic research into discussions surrounding Oculus' development shows that, even prior to its availability as a developer prototype, the potential for it to significantly transform cyberspace into something truly inhabitable and to profoundly affect the future of online activities ranging from gaming to cybersex generated intense speculation. Surely, in some sense, emergent technologies must be understood as the logical telos of ideological notions of what they can and should eventually accomplish.

Despite the efforts of Downey *et al* and associated scholars of science and technology to deconstruct the linear ascension narratives implicit within doxic scientific ontology, the cyborgian metanarrative is underscored by a mythology of escalating human permeability and technological agency. In abandoning one ascension narrative, they have created another. Surely within Downey *et al* and Haraway's work one can locate the Marxist notion of revolutionary inevitability. Do they not pre-suppose the radical reorganization of

the self, and by association, the need for a new anthropological format to apprehend these subjects? Do they not predict a crisis of subjectivity? Is the “ironic myth” championed by Haraway in *The Cyborg Manifesto* not the reappropriation of science—which has for so long been used as an oppressive tool—for the project of constructing an egalitarian future? Is this not, as Zoe Sofoulis points out, an unapologetic attempt to seize the means of production (Sofoulis 2007)?

Perhaps Baudrillard (1981), whose work was so impacting both within and outside the margins of the academy, is responsible for the lingering sense among scholars and various publics that cyber-technologies—particularly those that aim to produce virtual realities—will come to fully occlude the *real* and that technoscience will come to penetrate our lives in increasingly fundamental ways. Perhaps also, there is a debt owed to the cyberpunk prophecies of William Gibson’s *Neuromancer* (1984) and George Orwell’s *Nineteen-Eighty-Four* (1949) which ground the lens through which so many recession-wounded Western millennials come to understand new technologies as they leap into being. John Perry Barlow too must be implicated in the ideological structuring of cyberspace. Indeed, the notion of the internet as place of political dissent, boundaryless assembly, and geopolitical erasures was put forth most forcefully in his manifesto. He writes: “Governments of the Industrial World, you weary giants of flesh and steel, I come from Cyberspace, the new home of Mind. On behalf of the future, I ask you of the past to leave us alone. You are not welcome among us. You have no sovereignty where we gather” (Barlow 1996).

Among contemporary academics, no single scholar has projected a vision of the future of cyber-communications technology so succinct, impacting and steeped in the Western narrative of technological ascension as Benjamin Bratton. Indeed, within Bratton’s vision of *the stack* and in his commentary on the future of cloud computation, one can detect vestiges of the technological rapture predicted by Baudrillard in *Simulacra and Simulation* (1981). In the stack, hyperreality is fleshed out in concrete terms: the undoing of territory by way of the map, and the production of a new mimetic order—without correlating origins or referents—engendered by the technological assemblage of global cloud computing and GPS deep-addressing infrastructures. To quote:

“In an age of planetary-scale computation, what is the future of sovereign geography? As it is conditioned by globalization, localization, and intermediate zonal regionalisms, by spaces absorbed by networks and networks absorbed by citadels, will some other, unknown political geometry come to enact and enforce the necessary partitions and brackets (border, wall, law, identity) that would program the world according to its alternative plan, and plan it according to its program? For the citizen-subject-user-agent of that future, how can sovereignty itself be redesigned as the organization of another cosmopolitics, another geography, and another world that is not only possible but even inevitable? These questions are posed in anticipation of an opening-to-come, another “Copernican” transformation of the spatial order that would emerge both in resemblance and against the image of planetary-scale computation as we currently understand it. We may not have to wait. Geographies that were comfortable and doxic are now transient and alien, inhabited weirdly.” (Bratton 2012)

It is within this apocalyptic narrative of territorial and post-human transformation that I build my critique. It is not the reality of posthumanism that interests me, but rather the ideological structures that perpetuate the digitized subject as a trope within a presupposed oncoming techno-futurism. I am concerned here with the discursive reinventions of the self as they occur online, and the interpretation of cyberspace as a place of both freedom and imprisonment but never benign neutrality. Here, I take Marc Augé’s *“The War of Dreams: Studies in Ethno Fiction”* (1999) as a point of departure. While Augé’s claim that fiction and reality are rapidly becoming indistinguishable resembles, at least superficially, the eschatological crux of Baudrillard’s *“Simulacra and Simulation”* (1981), Augé is decidedly more reserved in the scope of his claims. While he does point towards an occlusion of the real through an ongoing process of fictionalization, he does so in a way that suggests the potential emergence of a globalized, symbolic imaginary brought on through the circulation of mass media, satellite television, and internet technologies. Augé invites us to take seriously the internet as a new cultural substrate, and while he is certainly suspicious of the capacity of mass media to obliterate cultural diversity, he does, in some sense, point towards its seminal capacity: its ability to generate new mythologies, new systems of meaning, and new mimetic realities. Indeed, it is not unreasonable to consider the writings of Baudrillard, Deleuze, Haraway, and Bratton as evidencing the existence of distinct techno-mythologies

and the production of a specific genre of ethno-fiction wherein we (Western, post-industrialists) are cast as transitional actors straddling humanity's biocultural past(s) and future(s).

The work of Lisa Nakamura and Tom Boellstorff also strikes at these emerging techno-mythologies and the status of the internet as a distinct cultural domain. In her writings on race in cyberspace (1995; 2005), Nakamura looks beyond the structural capacity of cyber-technology to organize new types of social relations and focuses on its internal dynamics, logics and fictionalized contents. Directly referencing Gibson's definition of cyberspace as a "collective hallucination", Nakamura explores how race is alternatively written into being or erased by online participants (engaged in online role playing activities) through its inclusion or omission from user-generated autobiographical texts. Moreover, she points out that erasures of race within user-generated autobiographies announces a broader utopian mythos in online gaming: that the cyberworld should be free of racial power dynamics in the broad interest of social harmony. In contrast to this utopian conviction, she notes that online gamers are largely presumed to be white by other gamers (Nakamura 1995). The whiteness of online gaming is thus part of the collective hallucination: a homogenizing force prompted not by a cyborgian undoing of race at the level of the biosocial, but as part of a series of symbolic gestures, choices, and a developing online ethos hashed out along new (although clearly racist) ethical axes. Tom Boellstorff's digital ethnography "*Coming of Age in Second Life*" (2008) explores similar sentiments. Studying the online game "Second Life", he notes how the performance of race, the development of in-game economies, and the production of novel social strata are contingent upon a distinct set of in-game principles and crafted from symbolic building-blocks unique to "Second Life" as a "field". Such an ethnography speaks not only towards the internet's ability to facilitate the formation of novel social structures, but also its capacity to yoke the transformative potential of new technologies to emic notions of what can and should take place.

Despite their commitment to recording the contents of emergent cyber-cosmologies, both Nakamura and Boellstorff are bound by the perimeter of their chosen sites: online games. The mythologies, cosmologies, and symbolic topographies of the broader internet

remain, largely, outside the scope of their projects, and the interpenetration between the cultural content of games and what is broadly known as “internet culture” is not speculated upon. Perhaps what is needed is a serious look at internet cultural (writ large) as already profoundly gamefied. Alongside the potential of Twitter, Facebook or Youtube to reconfigure human sociality, comes the structural requirement that users engage in a competition for approval, “likes”, and “shares”. The online games Nakamura and Boellstorff discuss might, then, be seen as microcosms of a broader online cultural milieu that incentivizes the same productions (or undoings) of race, masculinity and femininity, and general cultural values contained within the simulated realities of closed gaming worlds.

2.2 Methods and Conceptual Frameworks

My own research investigates the website Reddit.com, which according to the Alexa Report¹ (the standard index of web analytics), ranks 44th in total web-traffic on the indexable web. As it stands, Reddit is the largest online forum on the English-speaking internet. Subdivided into nearly half a million sub-communities (only ~5,400 being currently active), Reddit boasts over 115 million unique visitors each month. Despite its vastness, the dialogues that occur on Reddit do not end within its own boundaries. It is a common trope among users is that what occurs on Reddit today will supply the content for Facebook posts, tweets, Buzzfeed articles, and even write-ups in media as pedestrian as Readers’ Digest over the following weeks. Reddit cannot be understood as an island; its tentacles are far-reaching and inform and are informed by the far corners of the world wide web. Reddit is a nexus point of sorts: a meeting of individuals with a broad scope of interests, belief systems and geographical locations, all situated under the umbrella of an ostensibly stationary medium. Despite its global reach and international membership, PewResearch²—a respected internet research company—has shown that the largest demographic on Reddit consists of 18-27 year old American males. Remarkably, PewResearch’s demographic surveys have revealed that 15% of American males between the ages of 18 and 27 are active users.

My research methods were eclectic by necessity. As a dedicated “lurker” (someone who browses without participating), I collected thousands of individual comments emerging across a wide variety of subreddits related to science, technology, and futurology. In addition to observing dialogues unfolding in real time over a period of several hundred hours, Reddit allows users to search through its databases by keyword. This feature allowed me to analyse pertinent comments and dialogues occurring prior to the duration of this study. Several (n=14) Interviews were also conducted with Redditors using Skype. Redditors interested in participating in interviews consisted mostly of scientists or engineers interested in correcting the lay understandings of science and technology that appear on Reddit. While these data do not appear in this article, their existence should temper both the idea of a single homogenous interpretation of the future of technology on Reddit as well as the notion that scientists and engineers are primarily responsible for the production of ascent narratives pertaining to technological development. The data presented here are, by necessity, selected to be exemplary of the broader ideological interpretation of future technologies. Perceiving the centre of these discourses is difficult; it is mostly through their polarized teloi that one can begin to perceive the shape of a more general cultural understanding futurism. The data contained herein are, nonetheless, unremarkable in the sense that they serve to highlight and elaborate on more commonplace attitudes towards emergent technologies. The presence and momentum of these distal ends of discourse—the dialectical tug and pull between techno-libertarianism and techno-dystopia—should be seen as both producing and evidencing a more generalized anxiety or ambivalence towards future technologies at the discursive centre.

Written dialogue forms the central core of my analysis. It is within the ongoing discussions surrounding the development of new technologies that the anxieties surrounding the nature of cyberspace come into full resolution. Interpreting dialogue requires an attunement to the language games that online interlocutors construct, and yet they must be observed in a manner akin to historical analysis in real time: as text, in context. Indeed, Aimee Morrison has pointed out that the very notion of cyberspace itself cannot be understood outside of its discursive production (Morrison 2009). The digital topographies

that we are addressing, as well as the very notion of an “online community” cannot be dissociated from their literary origins. Digital communities and the space that they occupy only exist insofar as they are actively written into being. Methodologies for approaching this sort of discursivity are, perhaps unsurprisingly, mainly literary in nature. My own conceptual framework employs rhetorical genre analysis, a critical form which understands the production of content-centred discourse as evidencing the reification of a novel textual format. Rhetorical genre analysis takes the *function* of a series of texts to be of primary importance in determining its genre, and by extension, provides a way of comprehending the way specific groups of texts “dynamically embody a community’s ways of knowing, being, and acting” (Bawarshi and Reif 2010:78).

The goals of these texts are multiple. In the style of Barlow, they aim towards carving out a unique space apart from state intervention and in which discourse can openly circulate. They aim to reinvent the body under computational terms as a way of circumventing the biopolitical stranglehold over meat and bone. They are both revolutionary and counterrevolutionary. On one hand they shed the Foucauldian body in favour of a computational existence within virtual reality. On the other hand, they understand that doing so produces new types of risk and new occultic threats. Anxieties regarding state-sanctioned surveillance of online activities abound. Some discuss veiling subjects in virtual private networks like TOR: becoming ostensibly more computational in order avoid the prying gaze of the NSA. There are profound anti-institutional streaks. State power in America is routinely described as theocratic in nature. In line with Haraway, there is also a notion that science can be liberated from its status as “a kind of governance which illegitimately bypasses democratic processes” (Latour 2008: 25) and transformed into a revolutionary act. Here, the “ironic myth” of Haraway’s cyborg is re-engendered, stripped of all irony.

2.3 Becoming Online / Jacking-in

Prior to its controversial acquisition by Facebook in March of 2014, Oculus Rift received a large amount of attention in online discussions as a potential revolution in virtual reality

technology. Discussions surrounding Oculus Rift ranged from the possibility of a gaming revolution, to potential medical and military applications. An entirely new digital experience seemed not only possible, but affordable. Access to a totally immersive digital topography was presumed to be just over the horizon. Oculus was understood among certain futurist groups as a harbinger of disembodiment and speculation of its eventual applications and the new technologies for which it would pave the way took the form of speculative fiction steeped in Gibson's visions of computational bodies and spaces. Unsurprisingly, on Reddit, these speculative fictions have assumed political dimensions and concerns regarding the potential co-opting of virtual spaces by both corporate and government entities were raised and vigorously debated. The texts produced by online interlocutors discussing Oculus engender both the liberatory capacities of emergent digital technologies and the potential dystopias promised by science fiction books, films, and other media. In part, these texts must be understood in the context of Facebook's acquisition of Oculus and the privacy concerns that have plagued Facebook as a company since its inception. Additionally, texts need to be situated within the broader context of post-Snowden cyberpolitics: the reality of omni-surveillance, and debates surrounding net neutrality and the corporatization of cyberspace. Indeed, something like a geopolitics of the internet has arisen as a result of concurrent notions of inhabiting the digital through various sites, entrances, and interfaces and what is seen as an unwelcome intrusion into the kind of politically independent cyberspace outlined by John Perry Barlow (1996). The following is part of a discussion surrounding Oculus Rift from Reddit and is exemplary of current hopes and anxieties regarding the future of virtual technologies.

“The most disappointing thing here is the sinking realization that the future is just going to be more of the same corporate bullshit [...] which is the very thing that the dream of VR allows us to escape from. I'm sure that someone here will hack the devices and we'll write our own drivers and make our own software, just as has been happening already, but the sad reminder that we're all still living under the boot heel of the same old oppressors is deeply disappointing. The promise of a VR future where we can make meaningful connections and learn and experience amazing things is inherently compromised by corporate demands and interests, the playground of the mind filtered by the investment portfolios and advertising initiatives of others. [...]

let's all try to remember that the future is what we make of it - the Rift brought us together because it represents what a group of dedicated and passionate people can do when they work and dream alongside each other. We don't need Oculus, or Sony, or Facebook to hand it over to us - we'll make the VR we want, one way or the other. Let's see how the dust settles from this news, and then decide how we want to respond to it as a community. If there was ever a time to start talking about drafting guidelines to designate our legal demands for rights, freedoms, and access to virtual reality, it is right fucking now.”
(Gorgonaut666)

Such a monologue reveals several dimensions of the new genre of cyborgian fiction as it emerges online. First, it reveals the persistent notion that the online world—or whatever virtual realities that the Oculus Rift is capable of producing—*should* eventually assume the type of corporate and political independence alluded to by Barlow . Despite criticisms that Barlow’s notion of cyberspace is untenable in the modern age of cyberpolitics (Morrison 2009), the ideological undercurrents of his work still persist in the everyday dialogue of the virtual. The virtual is cast as a space under colonial threat by the very forces that have necessitated its inception as an escapist, unpoliced geography. The revolutionary politics that underscore the potential liberation of the virtual hinge on the technological circumvention of digital occupation: either by hacking existing technologies or through the development of new grassroots technologies free from surveillance or corporate control. Concealed within these revolutionary dialogues are hero narratives that implicate the hacker or the developer as the wielder of technological prowess and by extension, the agent of freedom. Similar to Gibson’s protagonist Henry Dorsett Case, the hero is tasked with defending a virtual world and freeing it from the grasp of a dystopic threat. As Paul Taylor points out, the image of the hacker is one that ambulates between two moral poles. On one hand, hackers are depicted in fiction as “anarchic, mercenary, and technologically savvy mavericks who seek (with generally limited success) to re-appropriate the technology of late capitalism for their own ends”, and on the other hand, as pioneers of a new type of sin or transgression enabled by dangerous, poorly understood technologies (Taylor 2007; 601-603). In a similar vein, Mark Oehlert has shown how comic book incarnations of the cyborg also trod a thin line between engendering either good or evil. Beneath the ability to control technology lurks an

ideological notion of absolute power: to either create or destroy within a dawning age of computational primacy (Oehlert 2007). Contrast the following statements:

“With the internet, we're becoming more and more of a global society. A group of activists in Idaho can hear all about something like the protests in Turkey and post pictures of themselves holding a big sign showing solidarity and the Turks can see that and start shouting at Erdogan that the US supports them, all in a matter of minutes. With the internet and better transportation technology we're transcending the landmasses and oceans that once kept our individual worlds relatively small. Hackers and activists are merging together to fight corruption digitally and things like Bitcoin are emerging which eliminate the need for national banking systems. I think that in the future, society will become global instead of national.”

(huckingfipster)

“Given recent advances in "mind reading" through use of brain scanning and imaging, what would protect anonymity and individuality in a post-singularity existence? I ask as currently any information we upload to the Internet is vulnerable to hacking, stealing, and misappropriation. If our entire being is in the form of data- couldn't we be hacked? Is it assumed that technological transcendence of this nature is preceded by widespread egalitarianism/altruism?”

(Chaseasaur)

“There have been proof-of-concept hacks of medical devices such as insulin pumps to show that you could remotely kill someone with a susceptible apparatus.”

(Dystaxia)

Here the hacker is seen to transcend the conventional limitations of the state and physical reality. Discursive fictions like these, wherein interlocutors imbue themselves or their hacker compatriots with the power to sculpt the future, can be read as an attempt to re-assert personal agency amidst an uncertain socioeconomic climate. Given the demographic arrangement of Reddit and the rise of millennial narratives of generational disenfranchisement, this desire is not necessarily surprising. Interlocutors produce fictions wherein they, having reclaimed their rightful position of dominance, are cast as the heroes of villains of an uncertain future. Freedom and dystopia are seen not only as possible outcomes

of a burgeoning technological crisis, but are both claims to power: the power to preserve; the power to kill; the power to usher in a new world order; the power to control, marginalize, consume.

It is inside this ambiguity—between liberation, dystopia, revolution and terrorism—that new technologies and the individuals who develop and augment them are culturally understood. If we are to understand emergent technologies as Latourian actants within a network, it is worth asking what ideological forms underpin their development, their repurposing, their cultural significance prior to development, or the imagined networks in which they are situated. Thus, I argue that while interpreting technologies as “actants” can reveal the ways in which technologies transform *real* networks or assemblages of people and objects, it cannot shine a light into the ideological dreamscapes that presuppose their development, or the culturally-embedded counter-discourses that reconfigure the actual relationships between persons and technologies by placing them within fictionalized, speculative narratives. If we are interested in what is “deep” or what is “thick” about emergent cyber-technologies and the cultural meanings that they acquire, it is necessary to peer beyond the superficiality of the actual and into the webs of meaning (rather than the networks of connectivity) that structure their interpretation. The Balinese cockfight is not reducible to the network of people and objects pulled into orbit around combative poultry; it is a historical production that traverses psychoanalytical spaces, cultural tropes, sexual metaphors, and mythologies in order to become culturally meaningful. Cyberspace is as much ideology as it is object. Similarly, the notion of the cyborg as developed in Haraway cannot be understood purely in terms of its potential to reconfigure actual bodies through technological interventions, but as now existing—or perhaps always existing—deep to reality where it can reproduce itself through an explosion of revolutionary cyborgian literatures pulled from a developing *ethos* of inevitable transcendence, or impose itself onto the future of technological development.

Also linked with Gibson’s vision of cyberspace is the notion of disembodiment achieved through a neural/computer interface. In Gibson’s *Neuromancer* (1984) the ability of the protagonist, Henry Case, to comfortably exist within the surrounding dystopic regime is

compromised by an injection that halts his ability to “jack” into cyberspace. The ability to physically enter into cyberspace and establish a physical presence therein has since become a trope in popular culture and has penetrated the interpretation of novel technological forms. Herein lies a notion of cognition as itself physical and capable of taking place outside the body through technological intervention. Elaborating on the idea of thought itself as physical and therefore able to be transduced into electrical signals, the notion of cyberspace as able to contain or manifest disembodied persons arises.

“What do you think a brain-internet interface would really look like? Not just a brain-computer interface, but actually being able to access and interact with the internet via a neural device or implant. What would that experience be like? Would there be any hidden dangers?”

(Stranger_of_Cydonia)

“By the time we have a brain-internet interfaces, there will probably be more efficient means of relaying information to humans. For example, there could be a digital extension of the brain that copies digital information into biological substrates through the mind, so you'd be able to understand information instantly without having to go through the slow process of learning about it [...] there could be more efficient means through direct brain augmentations where it may become possible to share emotions, memories, thoughts and sensual perceptions. Then again, after a bit of thinking, this would severely limit the amount of ways we experience our world and each other. So there could be more exotic forms of communication that enrich the human experience that we can't even comprehend now.”

(Chispy)

“Just a wild speculative guess about such a device. It would be able to: work subconsciously so things happen for us without us even having to think about them, provide information in a variety of ways (sight, sound, conscious access, be accessible in a variety of ways (inner dialog, imagining reaching for an object, using a mouse and keyboard) make any person capable of doing any task by "downloading" the knowledge, controls the chemicals released in the brain thereby overriding some human weaknesses. The biggest danger would be hackers. For lack of a better word you could steal someone's soul. You could put someone in a virtual hell.”

(Apocalypsemachine)

Here again we see the dialectic between salvation through technology and dystopia, and the hacker as hero and villain re-emerge. Once more, the hacker is implicated as occupying a privileged space capable of stealing souls through his/her technological prowess. While brains transplanted into digital vats circumvent bodily limitations, they are, nonetheless exposed to new vulnerabilities.

The following discussion shows the discursive production of an otherworldly cyberspace wherein even death may be circumvented through technological advancement. And yet, this literary construction of cyberspace and cyber-subjects possesses its own contradictions and presents its own dangers. In the space that follows, I show how discussions pertaining to technologically-wrought immortality generate not only a utopian vision of perpetual existence, but also elements of horror.

“Will You Live Forever by Uploading Your Brain into a Computer?”

(anutensil)

“No. I will still die. Duplication is not continuation.”

(DanielPhermous)

“What makes you think you currently have continuation? When you wake up after losing consciousness, you have memories of your life before it happened, but no other evidence. [...] I don't know of anything that would make a complete digital replacement substantially different than what we already experience. If you think the gradualness of replacement is what matters, you could always swap out parts of your brain for mechanical duplicates one piece at a time.”

(ChickenOfDoom)

“What happens after we have successfully uploaded our mind into a machine, such in the movie *Transcendence*? If our mind has been digitized, wouldn't it be easy to simulate (inject) any kind of emotions and feelings into our

consciousness? [...] All sensory inputs, I mean all, can be simulated in an instant. So this new all-digital environment will become the new Eden for me. There will be no death, fatigue, hunger, and sickness as I now do not have a frail organic body to maintain. I can even stay awake 24/7/365. Sadness, and other negative emotions can also be eradicated.”

(fjahja)

“If we do manage to beat death, how will we control the population? Will there be new laws about how long people are allowed live? Will only certain important people be given this privilege to prevent a population crisis [...] ?”

(SLIM_1)

“Those concerns will evaporate before it's even close to an issue. The key is virtualization of the human mind. Once we exist in a virtual realm we basically require no resources.”

(antiaging4lyf)

“Unless there's some significant changes, it's more than likely going to be dystopian in nature. There's just far too many primitive governments, laws, belief systems, etc, that exist today for it not to be.”

(deleted)

“My bet is initially it will only be the incredibly rich who can get this, everyone else will be screwed.”

(captain_wiggles)

Abou Farman has taken stock of the cosmological underpinnings of these computational renderings of the self, theorizing that they represent an attempt to rescue a self at risk from the monotony of empirical disenchantment. To Farman, re-engendering the body as computational or capable of enduring beyond death as technological objects are attempts to re-imbue the body with romanticist qualities lost through the historical process of secularization in the name of rationalism. Thus, Farman understands the need to escape death through technological means as the filling of an eschatological gap generated in the vacuum of secularization. While I agree with his premise that secular cosmologies represent an attempt to rescue bodies at risk, I disagree with the nature of the risk that he presumes.

Indeed, the development of new bodily configurations and the occupation of novel forms of digital space represent more than just a rally against the nihilism of disenchanting cosmologies; they are deeply entangled with political motivations and a desire to escape the climate of surveillance and risk through which non-virtualized bodies come into being. In some senses, this does require overcoming death through technological means due to the relationship between biopolitics and the undercurrents of risk associated with the primacy of bare life.

In her book *The Telephone Book: Technology-Schizophrenia-Electric Speech* (1989), Avital Ronell describes how the telephone was conceived, at least partially, due to Bell's desire to communicate with his dead brother. The unmapped technological territory that the telephone generates by tapping into a conscious sphere beyond flesh and bone seems to provide a location wherein the biological breaks down and the spirit can play freely, unbound. Jenny Ryan's (2012) work on the digital graveyards present on Facebook raises similar themes. When Ryan's grandmother was diagnosed with cancer in 2007, she realized the power of Facebook to coordinate the many familial procedures that surround death and dying. Even after death, memorialized facebook pages (which, according to the Huffington Post, now number over 30 million) allow families to stay in contact with each other and collectively engage in the practice of remembering. Indeed, memorialized facebook pages often prompt bereaved family members to attempt communication with the dead. These dialogues represent a privileged glimpse into the grieving process and thus will not be quoted here out of ethical concerns. They are, however, not uncommon and are easily located.

Much like Bell's brother, the dead of facebook now inhabit a strange digital purgatory; messages to the dead blur the lines that demarcate subjects from non-subjects. Herein lies a cyborgian subject produced exclusively through through genre fiction. The dead exist on Facebook as literary technohybrids, kept alive through the active production of fictive texts and the half-belief in a strange digital afterlife. Something fundamental about the person is seen to persist beyond the great divide, forever entombed within a binary reality.

In July of 2014, a popular post on the subreddit /r/nosleep detailed how a young man's girlfriend was communicating with him via Facebook from beyond the grave.

“My girlfriend died on the 7th of August, 2012. She was involved in a three car collision driving home from work when someone ran a red light. She passed away within minutes on the scene. [...] This is when it began. I had left Emily’s Facebook account activated so I could send her the occasional message, post on her wall, and go through her albums. It felt too final (and too un-Emily) to memorialise it. I ‘share’ access with her mother (Susan) - meaning, her mother has her login and password and has spent a total of approximately three minutes on the website (or on a computer, total). After a little confusion, I assumed it was her [...] Around February 2014, Emily started tagging herself in my photos. I would get notifications for them, but the tag would generally always be removed by the time I got to it. The first time I actually caught one, it felt like someone had punched me in the gut. ‘She’ would tag herself in spaces where it was plausible for her to be, or where she would usually hang out [...] At this point, some of you may be wondering why I didn’t just kill my Facebook profile. I wish I had. I did for a little while. On days when I can’t get out there, though, it’s nice having my friends available to chat. It’s nice visiting Em’s page when the little green circle isn’t next to her name. I was already socially reclusive when Em was alive; her death turned me into something pretty close to a hermit, and Facebook and MMOs were (are) my only real social outlets.”
(Natesw)

While the subreddit /r/nosleep is principally concerned with blurring the lines between fiction and nonfiction in the interest of horror, it is precisely within this ambiguity that the trope of a digital afterlife gathers momentum. The anxious ambulation between cyberspace as a place capable of overcoming death and the eerie discomfort that this instills mirrors the ideological conception of technology as simultaneously liberatory and concealing a hidden threat. Both horror and solace are produced in the spaces between hope and the fear of the unknown. While the above example may seem extraordinary or unique, the use of social media to communicate from beyond the grave extends beyond such blatant incarnations of digital spiritualism. Indeed, more practical ways of employing social media to communicate from beyond death are under discussion.

“Would you get someone to manage your social media afterlife? LivesOn, IfIDie, and DeadSocial are among the 60+ apps/websites/plugin working to create a social media afterlife, so that you can continue tweeting and facebook posting when you’re dead. Would you all do it? There are sci fi

shows (Black Mirror) that take this to extremes, but I think it sounds reasonable that one day, near death, you would hire an Earnest Communication Major to moderate your digital personas, and giving her all your stories, she could moderate your messages post-death. This is an upcoming world where there are personal assistants designed to facilitate the grieving process. Would you buy in? If I lost a loved one, the tech would be something I desperately wanted in the short-term, but may not be good for me in the long-term.”
(Misterraccoon)

As Misterraccoon notes, the production of a digital afterlife is already well underway with the circulation of cellphone applications meant to continue your social legacy beyond the grasp of death. Again however, there is a slippery slope to this sort of innovation:

“[...]in a world where virtual assistants have been widely adopted, a world that has already come/is continuing to come, I think the best and worst outcomes arise when they start sounding and acting too "human." I think it will put the most pressure on the situation when a helper technology starts wearing a lost loved one's face. And getting to connect with some digital remnants of your lost loved one would give you everything you desperately wanted in the short-term, but we know it wouldn't always help you grieve in the long-term, or maybe it would?”
(Misterraccoon)

Here again we return to the polarized potential of cybertechnologies. A thin line is drawn between what constitutes an acceptable use of technology to interact with the dead and what transgresses the rubikon of horror. Is this contrast, between a kind message from the afterlife and a loved one's face reanimated, not exemplary of the polarity we have so far pursued?

2.4 Concluding Remarks

What can be said then about a cyberspace that engenders the new frontier of freedom from political or corporate infiltration, and yet is seen as actively under threat? What can be said of

a space, or pseudo-space, that allows the body to be left behind, yet generates a fear of hacking the soul or ghostly visitations from the cyber-afterlife? How do we understand an emerging geopolitics of a space that is largely written into existence, and that contradicts itself and confounds delineation of its multiple dimensions? What ideological currents exist beyond the network of actors and actants and encapsulate the interpretation of technological forms within a literary envelope? Moore's law underscores the development of a brave new world of cyber-feminisms and post-bodily rebellions. As a narrative, it places us on the precipice of profound change: rapture, transcendence, liberty or decline, fascism, dystopia. Theorizing the future directions of cyberspace requires us to set aside our assumptions about the interpenetration between technologies and the self and to reassess the ascension narratives that underpin our own analyses. It seems that recognizing the impracticality of linear notions of technological advancement has done nothing to alert us of our own patterned thinking. Posthumanism is a genre, an ideology, a literary form. It lurks beneath both scholastic and public interpretations of technologies and reveals itself ideologically through the contradictions at its margins. If we are to theorize the impact of new technologies on our sociality, it is imperative that we investigate the doxic currents that structure our expectations and the expectations of the public. Do technologies really contain the animistic charges ascribed to them by Latour, or is their situatedness within networks of meaning the result of a series of choices or pre-existing notions about how they should be applied and interpreted?

Before we can understand what kind of subjects are being forged along the frontiers of the World Wide Web, we must first understand what kinds of subjectivity are seen as desirable or worth becoming. As anthropologists, we find ourselves oscillating between the liberatory and dystopic dimensions of new technologies and new forms of media: subjects, non-subjects, citizens, netizens, observation, surveillance, paranoia, and empowerment. Coming home from the tropics has served its purpose: we can no longer exteriorize and objectify that which we study. Our project must turn both inwards and outwards, beyond the technological frameworks in which we are embedded, and beyond the edges of what the future might hold. Here, at the perimeters of space and selfhood, we can perceive the interior

of the exterior: the narratives that we contain and are contained by.

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Notes:

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