TRANSHUMANISM

Transhumanists argue that science and technology will enable us to overcome our biological limitations, both mental and physical, and create a radically enhanced posthuman species and society. In this book, Jenny Huberman examines the values and visions animating the Transhumanist Movement in the United States today, whilst at the same time using the study of transhumanism as a way to introduce a new generation of students to the discipline of cultural anthropology. She explores transhumanist conceptions of revitalization, immortality, the good life, the self, the body, kinship, and economy, and compares them to the belief systems of human beings living in other times and places. Providing lively ethnographic insights into a fascinating contemporary sociocultural movement, this book will be invaluable to students and researchers in anthropology, as well as anyone interested in the phenomenon of transhumanism.

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Transhumanism

From Ancestors to Avatars

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University of Missouri–Kansas City

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For my sons and for my students:

May there always be a place for humanity in your future.

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Acknowledgments

I love teaching anthropology. The students at University of Missouri–Kansas City (UMKC) continually inspire me with their thoughtfulness and passion. Watching them learn to view the world through an anthropological lens is incredibly rewarding and it is a lot of fun! Thank you, students, for making my job such a joy. In the course of writing this book, you have been my most important interlocutors and I feel so privileged to share the classroom with you. Always remember that the "grist" for the anthropological "mill" is only as limited as your imagination is, so think big, and trust your curiosity and instincts to lead you toward unexpected inquiries and exciting discoveries.

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Introduction
Thinking through Transhumanism

Transhumanism is a topic I stumbled into rather than intentionally set out to explore. A few years ago, I was beginning to write about the way experiences of loss, mourning, and memorialization are changing in the digital age. In pursuing this interest, I came upon Martine Rothblatt's book, *Virtually Human: The Promise and Peril of Digital Immortality*. The book provides an overview of the transhumanist attempt to achieve immortality through the technology of mind cloning and it discusses some of the "revolutionary" implications this technology might have for the future of our species. As I read the book, I found myself intrigued, but also struggling to wrap my head around what Rothblatt was proposing. The transhumanist vision of the future she was describing seemed utterly alien, and to be completely honest, kind of horrifying. Did I really want to live in a world where my great, great grandmother's digital avatar would join me for Thanksgiving dinner? Or my grandparents would be cared for by "cyberconscious" robots? Or my mindclone digital offspring called "bemans" would "stage civil rights movements" to ensure they "win the same status that flesh-and-blood humans enjoy" (Rothblatt 2014, 166)? I would read a few pages, put the book down, and then blurt out to myself, "This is completely crazy!"

As my kids like to say, "The struggle was real." As a cultural anthropologist I had been trained to understand and explicate the ideas, beliefs, and practices of other groups of people. Indeed, this is the basic

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lesson I impart to my students every semester when I teach Introduction to Cultural Anthropology. However, for reasons I hope to explore in this book, my initial encounters with transhumanism yielded mostly feverish critiques and unequivocal condemnations. It was very difficult for me to keep my "anthropology hat" on.

In hindsight, this also seems to have been part of the allure. As I fumbled my way through my first encounters with transhumanism and the bewilderment and hostility it provoked, I sensed a challenge presenting itself. How might I use the tools of my trade to render the transhumanist vision of the world more sensible? How might I treat transhumanists the way I would any other "natives" whom anthropologists typically try to study and understand?

After reading more of the literature on transhumanism I came to find that I was hardly alone in my reaction. While transhumanists themselves have generated a robust literature, extolling the virtues and promise of their attempts to use science and technology to reengineer the human species and usher in a posthuman future, most scholars writing about transhumanism revealed the same kind of hostile impulse that initially animated my response. Transhumanism was being decried as "the most dangerous idea" ever and the goal of most scholarship on transhumanism seemed intent on demonstrating that transhumanist conceptions of human nature are "wrong" or "defective."

It turns out that teaching Introduction to Cultural Anthropology every semester proved incredibly useful in helping me reclaim my "anthropology hat." As I began to learn more about the Transhumanist Movement and the various initiatives transhumanists promote, I came to realize that transhumanists are interested in using science and technology to reconfigure conceptions of the person, the body, kinship, cosmology, the social and political order, and the physical environments in which our future descendants will dwell. In other words, I came to realize that transhumanist initiatives target the very domains anthropologists have traditionally focused upon in their efforts to explore and understand

human life across a vast array of contexts; the very domains, in fact, that structure the organization of my Introduction to Cultural Anthropology course. Once I realized this, the goal was no longer to show how or why transhumanists are "crazy" or "wrong," but rather, the goal was to ask, how does the transhumanist understanding of the world; of human nature, the person, kinship, cosmology, the good life, and so on, *compare and contrast* with the way human beings, living in other times and places, have conceived of such things? I began to suspect that approaching transhumanism, and transhumanists, from a comparative perspective might yield insights about the movement, and the people who promote it, that would otherwise go unnoticed.

A "Back to the Future" Approach to Transhumanism

If anthropology is indeed the comparative study of humankind, then what could be better grist for the anthropological mill than a group of people who are explicitly devoted to ushering in a new kind of human, or rather, posthuman? Over the past thirty years, transhumanism has emerged as a significant sociocultural movement. The movement is premised upon the idea that human beings can use science and technology to significantly enhance their capabilities and overcome many of the limitations of human biology. Transhumanists believe technology will imbue us with intellectual, physical, and psychological capabilities that far surpass what present-day human beings are familiar with. This, they argue, will transform our species and society in very significant ways, ultimately ushering in a "posthuman" future. As Max More, one of the founders of The World Transhumanist Association (now called *Humanity +*) explains, "By thoughtfully, carefully, and yet boldly applying technology to ourselves, we can become something no longer accurately described as human – we can become posthuman" (More 2013, 4).[1] Some of the initiatives transhumanists are currently pursuing include: radical life extension, the colonization of space, achieving immortality through

the technology of mind cloning, developing robots that will exhibit the full range of human cognitive abilities, and using technology to achieve eternal bliss as well new forms of body augmentation. In other words, transhumanists are interested in using science and technology as part of a totalizing attempt to create a radically enhanced future in which posthuman beings will acquire powerful capabilities and be impervious to aging, illness, and death.[2]

As a popular phenomenon, transhumanism seems to be everywhere these days. Its influence can be gleaned in television shows like *West World*, Elon Musk's SpaceX program and self-driving cars, and military attempts to use new technologies to augment the cognitive abilities of soldiers in the field. In other words, it is clear that transhumanist projects are *already* actively remaking the social, material, and imaginative worlds in which we live. And yet, as an anthropological object of inquiry, transhumanism has received surprisingly little attention.

The purpose of this book is twofold. First, it provides an anthropological exploration of transhumanism as a contemporary sociocultural movement. In the chapters that follow I examine the visions, values, and practices that animate transhumanist projects and their attempts to appropriate science and technology to usher in an enhanced posthuman future. Second, this book uses the study of transhumanism as a way to introduce a new generation of students to the field of cultural anthropology. In classic anthropological fashion, I argue that transhumanism can be better understood by placing it within a comparative perspective. I show how transhumanist efforts to transform the future of our species speak to a longstanding set of concerns within the discipline. This book, therefore, starts out from a paradox. Ethnographically, it focuses on a futuristic social movement that is committed to the idea of perpetual transcendence. Academically, however, it argues that there is much wisdom to be gained by returning to the past. Listening to our disciplinary ancestors can still yield important insights about the worlds and people of the twenty-first

century. In this book, therefore, I take a "back to the future" approach to transhumanism.[3]

This back to the future approach to transhumanism may strike some readers as counterintuitive, and I am the first to admit that it is woefully unfashionable. But at a time, yet again, when all "that is solid" seems to be "melting into air" (Marx 1848) I hope to demonstrate that knowing the past, whether it be one's ancestors, one's history, or one's discipline has value. It has value *not* because it enables one to spout off information or names that most people are no longer familiar with. But rather, because knowing the past enlarges our vision. It helps us to recognize that that which seems novel is not necessarily new, and that which is new, is not necessarily more valuable. There are, no doubt, good arguments to be made for putting transhumanism in conversation with more contemporary "turns" in anthropology. The attempts to develop a "cyborg anthropology" (Downey, Dumit and Williams 1995; Haraway 1991) or a "posthuman" anthropology (Kohn 2013; Latour 2005; Rees 2018; Tsing 2015; Valentine 2016, 2017; Whitehead 2009) or an anthropology predicated upon "the new materialism" (Bennett 2010) do offer valuable perspectives from which to explore the transhumanist project and I look forward to forthcoming and future scholarship that moves the study of transhumanism in such directions. However, for reasons I have tried to make clear, this is not the direction I have chosen to pursue in this book. I hope that students and scholars of anthropology and transhumanism alike are able to recognize that both orientations have merits as well as inevitable limitations.

Technology, the Imagination, and the Future

While this book advocates a back to the future approach to transhumanism, it also engages three timely questions within anthropology today: How are new forms of technology reconfiguring human life in the twenty-first century? How are technologists assuming an ever-greater role in

shaping the future of our species? And more specifically, how does "the technological imagination" (Balsamo 2011; De Lauretis et al. 1980) become a powerful force in the making of social lives and futures?

There is a robust anthropological literature exploring the articulations between technology and society. Anthropologists have shown how new forms of biotechnology are shaping understandings of life and death (Franklin and Lock 2003), reproduction and parenthood (Grayson 2000; Taylor 2000), and even altering conceptions of the person (Csordas 2000; Dumit 1997). A growing interest in digital and computer technologies has led anthropologists to pose further questions about the way technology is engendering new forms of subjectivity and sociality (Boellstorff 2008; Coleman 2012; Horst and Miller 2012; Schüll 2014; Turkle 2005, 2017). Developments in the fields of robotics and artificial intelligence have also prompted anthropologists to raise important questions about the role culture plays in mediating people's reactions to and uses of technology (Robertson 2017; Vidal 2007).

This literature has greatly enhanced our understanding of how technological innovations, across a range of contexts, are fundamentally altering the ways people in the twenty-first century live and feel. What makes this book distinctive, however, is first, that it focuses on a group of actors who are explicitly committed to using technological innovations as part of a *totalizing* attempt to radically reimagine the future of our species. From the cellular, to the extraterrestrial, transhumanism has implications for just about every aspect of human life. This, I propose, makes transhumanism particularly good "to think with."

Second, while transhumanism provides an apt lens through which to interrogate the impacts of new technologies, the primary emphasis in this book is on exploring the transhumanist "technological imagination" and the ways in which transhumanists envision a posthuman future that has yet to be actualized. More specifically, it primarily focuses on the technological imagination of transhumanists living in the United States. As Anya Bernstein points out, "American techno-utopianism"

has its own particular set of intellectual and cultural genealogies and is not necessarily representative of transhumanist orientations elsewhere (Bernstein 2019, 22). This insight is further elaborated by Anne Balsamo and others who have argued that the very concept of the technological imagination encourages us to explore the dialectal interplay between culture and technology (Balsamo 2011; De Lauretis et al. 1980). It suggests "that technology shapes the very content and form of the imagination in our time" (De Lauretis et al. 1980, vii), but it also reminds us that "the exercise of the technological imagination reproduces cultural understandings at every turn" (Balsamo 2011, 7). As Balsamo argues, exploring how "the future is first produced in our imaginations," not only provides a useful entry point for examining present cultural configurations, but it also enables us to examine how the imagination itself becomes a powerful force in the making of social lives and futures (Balsamo 2011, 52).[4] Even if some transhumanist visions of the future seem far-fetched now, their ability to widely circulate these visions has the potential to play an influential role in shaping the world we will inherit.

Indeed, as science and technology are currently transforming the human condition at a historically unprecedented rate, the future itself is emerging as a topic of anthropological concern. When we consider the fact that anthropology emerged from attempts to document and "salvage" vanishing cultures before they disappeared, this reorientation, and this emphasis on studying social forms *not yet actualized* is noteworthy. In part, I suspect it is a response to the looming threat of the Anthropocene. Instead of working to salvage vanishing cultures, which became unfashionable long ago for theoretical, as well as historical and ethnographic, reasons (Stocking 1983), anthropologists have become increasingly concerned with salvaging *a* future for our species.[5] The planetary clock is ticking and it is clear that if we are going to extend our species presence into the deep future, adaptations and interventions will need to be made. And yet, anthropologists also recognize that

what makes our species distinct is not just its capacity to imagine and anticipate the future, but its ability to shape the future in accordance with particular visions and values; that is, to "organize the future as a cultural horizon" (Appadurai 2013, 5). Therefore, in this book I ask: exactly what kind of future are transhumanists interested in creating and what does this reveal about the visions and values that animate their efforts? As the eminent, and unfortunately late sociologist, John Urry has urged, "The future is too important to be left to states, corporations or technologists. Future visions have powerful consequences and social science needs to be central in disentangling, debating and delivering those futures" (Urry 2016, 7).

By focusing on this particular group of technofuturists, I join efforts with other anthropologists who ask questions about how futures are made and by whom (Appadurai 2013; Farman 2012a; Miyazaki 2013; Valentine 2012). Although commentators often jokingly refer to transhumanism as "The Rapture of the Nerds," transhumanists are influential stakeholders in the future.[6] Transhumanism has generated a very powerful group of celebrity scientists, cum engineers, cum entrepreneurs who actively promote transhumanist visions and agendas by working through an array of corporate- and government-sponsored institutions. In fact, I suspect that this power and influence is part of what provokes so much anxiety and concern and makes it difficult for scholars to keep their "anthropology hats" on when studying transhumanists.

Like Urry, I agree that the "future is too important to be left to states, corporations, or technologists," and that social science should play a role in "disentangling and debating" those futures. However, the first step in such a conversation or "debate" should be: understanding. The ethnographic record is replete with too many examples of interventions gone wrong because the impulse to critique superseded the impulse to analyze. If we are going to critically engage with transhumanist attempts to make the future, it behooves us to understand them first.

This also means taking account of the "ideological differences" and "internal tensions" within the Transhumanist Movement and recognizing the fact that such "movements rarely speak with a single voice" (Escobar 1992, 421).[7] While transhumanists have become powerful stakeholders in the future, this does not mean that all transhumanists share a common vision of the future or agree on how best to usher that future in. For instance, unlike transhumanism in Russia, where "futurists hold diverse political views and the communities they form are not generally based on traditional politics" (Bernstein 2019, 23), in the United States, the most outspoken and influential figures of the Transhumanist Movement have been highly educated, predominately white, male elites, who share libertarian outlooks and have earned their fame and fortunes in Silicon Valley by combining their knowledge of the high-tech industry with an equally robust commitment to venture capitalism.[8] For instance, billionaire investor Peter Thiel, Space X founder Elon Musk, Amazon CEO Jeff Bezos, and famed futurist Ray Kurzweil, who now directs Google's department on artificial intelligence, have all played pivotal roles in developing transhumanist visions into lucrative business enterprises. And yet, while Silicon Valley has provided a major impetus for the growth and renown of transhumanist ideas, the movement is also attracting a group of technoenthusiasts with far less capital, financial and otherwise, who are equally committed to using science and technology to push the limits of what it means to be human and who tend to be much more supportive of socialist politics and policies rather than advocates of free market capitalism.

These self-proclaimed "body hackers," "biohackers," "grinders," or "scrapheap transhumanists" are at the forefront of a growing DIY Transhumanist Movement. They not only use widely available technologies and resources such as tracking chips, magnets, and motion centers to enhance their sensory capacities and fulfill their aspirations of becoming self-made cyborgs but are also at the forefront of a growing citizen science movement and are committed to reclaiming scientific

research from the official institutions of the academy.[9] Like hackers elsewhere, grinders advocate "open source" technology (Coleman 2012; Kelty 2008). And in stark contrast to the venture capitalists of Silicon Valley, they explicitly reject the idea that body modification and biogenetic technologies should be commodified for the pursuit of profit, or reserved for those with "laboratories and large bank accounts."[10] An exhaustive analysis of the Transhumanist Movement is obviously beyond the purview of this book. However, I hope to demonstrate that transhumanist visions of the future are neither monolithic nor uncontested. Indeed, one of my goals is to explore the tensions and contradictions that animate the Transhumanist Movement in the United States, as well as illuminate the values and visions that are shared.

The Anthropology of Transhumanism

Over the past fifteen years, the literature on transhumanism has exploded. Much of this literature is being generated by transhumanists themselves, who are eager to explicate and share their visions of the future with a larger audience. For instance, religious studies scholar, Robert Geraci, explores how transhumanist visions and values have "entered contemporary life" through the emerging popular science genre of "Apocalyptic AI." He argues that figures, such as Ray Kurzweil, Hans Moravec, Marvin Minsky, Kevin Warwick, Hugo de Garis and others, use their popular science writings as a "social strategy" to garner public attention and "research funding" for their transhumanist initiatives (Geraci 2010, 38). In a similar vein, James Herrick proposes that the ability to produce and circulate rhetorically persuasive myths and narratives of a future technological transcendence is just as key to the development of the Transhumanist Movement as are the actual technological advances transhumanists develop and promote. "Crafting and propagating a compelling future-vision," he argues, "is

an undertaking that, when accomplished with rhetorical skill, affords proponents (of transhumanism) a degree of cultural influence out of proportion to their actual numbers" (Herrick 2017, 4).

While transhumanists have played an active role in propagating the literature on transhumanism, the literature has also grown from the contributions of self-proclaimed "critics." Scholars working across a range of fields from philosophy, to religious studies, to bioethics, to political science, have spilled a lot of ink trying to prove that the transhumanists are "wrong" or that their ideas are inherently "dangerous." For instance, political scientist Francis Fukuyama has described transhumanism as "the most dangerous idea in the world."[11] The philosopher Gary Elkins proposes that "transhumanism … functions with a defective understanding of human nature because it wrongly assumes that the essence of a human can be reduced to information" (Elkins 2011, 16). Other scholars writing in a concerned, and sometimes critical vein, have sought to "refocus the debate on transhumanism" by trying to anticipate the implications of various transhumanist initiatives. As Hava Tirosh-Samuelson and Kenneth Mossman ask, will transhumanism lead to "building better humans?" (Tirosh-Samuelson and Mossman 2012). Or, will it result in a world where human life as we know it will no longer be recognizable? In other words, much of the scholarly literature on transhumanism has revolved around the question: Is transhumanism good or bad, right or wrong?

As proponents of cultural relativism, these are *not* the kinds of questions anthropologists typically ask. Most anthropologists would find it quite curious if a colleague set out to demonstrate that Nuer or Illongot conceptions of human nature are "wrong" or "defective" so the fact that this is repeatedly done in studies of transhumanism warrants some reflection. Indeed, it is precisely by choosing different questions to explore that anthropologists have begun to move the academic study of transhumanism beyond these unproductive binaries and value judgments. While the anthropology of transhumanism is

still in its early stages of development, anthropological studies have shifted the terrain upon which transhumanism is approached. For instance, instead of decrying transhumanists for their "defective" understanding of human nature, anthropologists have asked, what would lead transhumanists to imagine that the essence of a human can be reduced to information? What might this teach us about the way conceptions of the human are being actively transformed by the intersecting fields of neurobiology, computer sciences, and artificial intelligence (Farman 2012a, 2014)? Similarly, instead of trying to debunk transhumanist attempts to achieve immortality through cryonics or the technology of mind cloning, anthropologists have asked, what do transhumanist immortality projects reveal about the current moment we are living in? How are conceptions of the afterlife shaped by societal forces and relations (Bernstein 2015, 2016, 2019; Farman 2012a; Huberman 2018)?

Anthropologists have also used the study of transhumanism as a way to explore the shifting roles of religion and science in the context of late modernity. In studying transhumanists involved in the Immortalist Movement in the United States, Abou Farman proposes that transhumanist immortality initiatives be understood as a response to "the aporias of secularism." He argues that transhumanism has "activated science-based cosmological visions" which seek to "re-enchant" the universe. Transhumanists are driven by "the possibility of using science to derive purpose (meaning) from a universe originally emptied of it by science itself" (Farman 2012b, 1080). In contrast, Geraci proposes transhumanism be viewed as a "new religious movement" that "advances technoscientific research agendas, creates the ideology for virtual life, and presses for the acceptance of intelligent machines into human culture" (Geraci 2010, 6).[12] He concludes that despite the antireligious attitude transhumanists typically espouse their projections of the future borrow heavily from the apocalyptic visions of Christianity and Judaism.[13]

Jon Bialecki's current research on The Mormon Transhumanist Association also challenges the idea that religion and transhumanism are necessarily antithetical to each other. He observes that "for reasons having to do with some specific features of the Mormon Religious imagination, producing a Mormon-compatible articulation of transhumanism is easier than might be imagined" (Bialecki 2015, 1). His work points to some very interesting alliances between organized religion and transhumanism. Anya Bernstein has chronicled the conflict and schism between the Transhumanist Movement in Russia and the Russian Orthodox Church. She suggests that transhumanist immortality initiatives and the responses they evoke provide a privileged window through which to explore "the contest between 'the religious' and 'the secular' that have so animated public life in Russia since the Soviet collapse" (Bernstein 2015, 767). She also shows how certain strains of transhumanism in Russia blur the lines between the religious and the secular, thereby making it quite distinct from the predominately secular forms of American transhumanism that Farman has documented (Bernstein 2019).[14]

In addition to exploring the way transhumanism blurs and/or bridges the boundaries between the secular and the religious, anthropologists have also drawn attention to the way transhumanist initiatives infuse economic pursuits with cosmological significance. Indeed, it might be argued that transhumanism has given rise to a novel form of "cosmological capitalism," in which the pursuit of entrepreneurial enterprise is understood not just as a means to accrue capital but also as a means to achieve species salvation well into the distant future. David Valentine arrives at such a conclusion through his research on NewSpace entrepreneurs, many of whom identify with the Transhumanist Movement, and who are committed to securing the survival of our species into "the deep future" by establishing "human settlements in the solar system and beyond" (Valentine 2012, 1047). Valentine cautions that there is "a temptation for critical social scientists to see this vision

as simply an alibi for new markets and profits," but asks "what is at stake for us as anthropologists and critical theorists in taking such kinds of cosmological visions seriously, and in their own terms?" He answers:

Beyond the possibilities for new forms of capital investment and profit, enabled by commercial space enterprise … it is actually this promise of a radically transformed human social future that underwrites NewSpace discourse and activities. Indeed, understanding NewSpace as only the latest incarnation of neoliberal capitalism, this time written into the stars, impoverishes our understanding of how powerful social actors shape deep human futures through cosmological commitments to radical views of what it means to be human, and contributes to the narrative of a totalizing capitalism that can account for all human futures (cf. Gibson-Graham 2006). In short, the practices of powerful social actors should not be reduced to the abstracted workings of "the market" but rather, to be fully understood, they must be considered as social, ideological, but also cosmological. (Chesluk 2008; Ho 2009) (Valentine 2012, 1047)

Overview of Chapters

Though still in its early stages, the existing anthropological research on transhumanism clearly offers a rich departure point for the analysis that follows and the chapters in this book take up themes and questions that have been introduced here. However, by broaching transhumanism from a comparative perspective, and by linking my discussion of the Transhumanist Movement back to certain classic issues and topics in anthropology, I also hope to introduce ways of thinking about transhumanism as a sociocultural phenomenon that have not been foregrounded in the research thus far. In Chapter 1, for instance, I recast questions about the religious versus secular nature of transhumanism, as well as provide a brief history of the development of the movement, by returning to Anthony Wallace's work on revitalization movements. In so doing, I show how the Transhumanist Movement has emerged as a response to societal stress and may be usefully conceptualized as

a "deliberate, conscious, organized effort by members of a society to construct a more satisfying culture" (Wallace 1956, 265).

In Chapter 2, I provide a novel intervention into studies of transhumanist immortality initiatives by exploring how the transhumanist attempt to achieve immortality in avatar form through the technology of mind cloning, compares and contrasts with the ubiquitous human practice of making ancestors. By juxtaposing the making of ancestors with the transhumanist making of avatars, I show how transhumanists both reproduce and reconfigure the way human beings deal with enduring existential dilemmas.

Chapter 3 examines the transhumanist attempt to live "happily ever after." I ask, how exactly do transhumanists conceive of the good life? By what means do they seek to usher it in? How do transhumanist conceptions of happiness compare and contrast with the way happiness has been understood and pursued in other social contexts? As anthropologist have observed, "how people conceive of, evaluate, and pursue (or not) happiness can reveal much about how they live and the values they hold dear" (Walker and Kavedžija 2017, 1). Drawing upon insights from the cross-cultural study of happiness, this chapter seeks to further our understanding of the "hedonistic imperative" (Pearce 1995) that animates so much of transhumanist thinking and practice.

In Chapter 4, I explore the transhumanist pursuit of "morphological freedom," a topic that has received little attention thus far. I argue that although transhumanists place a premium on the individual's "right to modify oneself according to one's desires" (Sandberg 2013, 56), and view the body as a means to actualize a unique self, transhumanist attempts to reconfigure the body also reveal a commitment to shared meanings and values. As is the case in countless other human societies, among transhumanists as well, the body provides one of the primary frontiers upon which the power of society is exercised and inscribed. By comparing and contrasting the transhumanist body with "social skins" (Turner [1980] 2017) found in other societies, I hope to delineate more

clearly what these values are and what kinds of sociocultural conditions they are reflective of.

Chapter 5 addresses a topic that has been readily explored in the anthropological literature, transhumanist conceptions of the self. Transhumanist conceptions of the self have been variously described as "informatic," "quantified," or data-based, and a number of scholars have shown how these conceptions of the self have emerged from a cross-fertilization between the fields of neurosciences, computer sciences, and artificial intelligence (Farman 2012a; Geraci 2010; Herrick 2017; Lupton 2017; O'Connell 2017). However, by putting these studies in conversation with Irving Hallowell's writings on The Ojibiwa Self and its Behavioral Environment, this chapter provides some new insights into the way transhumanists conceive of the self, and the future behavioral environments in which future posthuman descendants will dwell. I argue that like the Ojibwa, transhumanists also envision a future in which personhood will not be the sole domain of humanity, but rather distributed among an array of "other-than-human" powerful beings (Hallowell 1955).

In Chapter 6, I explore the way transhumanists envision kinship in the posthuman future. From attempts to creating digital offspring through "software fertility doctors" (Rothblatt 2014), to developing intimate relationships with robotic kin, to advocating for new forms of biological reproduction that can involve multiple genitors and occur in the laboratory rather than the womb, transhumanists propose that the posthuman family will look significantly different than family does today. The point of this chapter is not to determine whether or not these possibilities will be actualized in the future, but rather to explore and explain why this way of construing kinship makes sense to transhumanists. In so doing, the chapter will further our understanding of transhumanism and provide yet another example of the diverse ways our species has attempted to imagine and configure something we call family.

Chapter 7 explores the various means by which transhumanists imagine and seek to actualize a "post-scarcity" economy. In so doing, it asks, how does the transhumanist conception of an "affluent society" compare and contrast with the ways people living in other times and places have conceived of such things? And how do their differing visions of the future "society of abundance" also reflect larger ideological tensions and schisms within the movement? The concluding chapter provides an overview of the values, visions, and tensions that animate the Transhumanist Movement and it offers some reflections on what a posthuman future might entail for cultural anthropology.

A Note on Methods

One of the major turning points in the development of anthropology as an academic discipline was methodological. While late nineteenth-century ethnologists like James Frazer and E. B. Tylor pursued the comparative study of humankind from the "armchairs" of their libraries, by the early twentieth century, a new methodological mandate had been issued. As Bronislaw Malinowski most famously came to insist, if anthropologists are going to study and understand other people they must do it firsthand. Living with "the natives" for prolonged periods of time, paying close attention to the details of "daily life and ordinary behavior," and eliciting the "native's views, opinions and utterances" (Malinowski 1922, 22) would, Malinowski argued, yield insights about other people and societies that could not be generated by other means. Although fieldwork methods and "ethnographic authority" came under severe scrutiny with the Writing Culture turn of the 1980s, for most practitioners, fieldwork continues to be "the hallmark of cultural anthropology" (Stocking 1992, 16). Indeed, George Stocking has described it as "the central ritual of the tribe," that which renders one's research and status as an anthropologist legitimate (Stocking 1992, 16).

Introduction

Few anthropologists, myself included, would take issue with the idea that there are innumerable benefits to living with people for prolonged periods of time and getting to know them intimately on a day-to-day basis. However, for a number of reasons, this is not the methodological route I have followed in this study. First, transhumanists do not form a geographically centralized community that one can "immerse" oneself in. While certain parts of the United States, such as Silicon Valley, tend to have more active transhumanist 'scenes' than others, transhumanists are not bound together by spatial proximity or regularly occurring face-to-face interactions. Much transhumanist sociality occurs at key events, such as conferences, meetings, talks, and conventions; in association with the activities and initiatives of various corporations, think tanks, and foundations; and through transhumanist publishing outlets such as the Prometheus press, or *Journal of Evolution and Technology* (JET), Humanity +'s flagship journal.

Second, because of their elite status, some of the transhumanists, who figure in this study, were very difficult to get access to. In my attempts to elicit "the natives' point of view," therefore, I have relied on published interviews and accounts of their ideas rather than personal acquaintances. The third reason for not utilizing traditional fieldwork methods is that since its inception in the late 1990s, the Transhumanist Movement in the United States has, in large part, developed online. Transhumanist discussion forums, blogs, and websites have thus provided me with key sources of data. Indeed, while it is comparatively difficult to observe transhumanists in their everyday lives, it is not very difficult to listen to them. Transhumanists, it turns out, are incredibly verbose, and whether they use online discussion forums, ted talks, or printed materials, they are highly skilled at getting their message out to a wider public. Indeed, those transhumanists, whom I did meet at various conventions and focused gatherings, were very generous with their time and participated in lengthy interviews with me via Skype.

Third, while intensive fieldwork with transhumanists may have enabled me to generate a richer account of particular transhumanist initiatives, I wrote this book because I wanted to provide an overview of the manifold ways transhumanists are proposing to use science and technology to usher in an enhanced posthuman species and future. Other anthropologists are providing incredibly rich ethnographic accounts of particular aspects of the Transhumanist Movement, for instance, transhumanist immortality initiatives (Bernstein 2019; Farman 2012a), the articulations between transhumanism and Mormonism (Bialecki 2015), and the transhumanist involvement in NewSpace enterprises (Valentine 2012) are all topics anthropologists have broached through prolonged and immersive ethnographic fieldwork. Their work will undoubtedly generate insights into the movement and its participants that this book cannot. However, because my goal was to get a sense for the totalizing vision of the future that transhumanists promote, this was not a feasible research method for me.

Finally, the difficulty of applying traditional fieldwork methods also stems from the difficulty of defining who is and is not a transhumanist. If transhumanism is defined in the broadest terms as a sociocultural movement devoted to using science and technology to overcome the limitations of human biology and usher in an enhanced future, then there are many people working in the fields of science and technology who could be considered proponents of transhumanism or who are contributing to the stated goals of the movement even though they do not self-identify with it. This is further complicated by the fact that their work and efforts are often magnified by outspoken proponents of the movement, who then claim them as part of the transhumanist vision of the future. Furthermore, in many cases, the transhumanists, who publicize and advocate for various enhancement initiatives, are not actually the people doing the research to develop new technologies. In some cases, their "work" derives mainly from being spokespersons

for the cause. As such, it can be difficult to delineate clear boundaries between transhumanists and other technoenthusiasts. While there are instances in this study where these boundaries get blurred, for the most part, I have attempted to address this difficulty by focusing primarily on those people who explicitly claim the mantle of transhumanist. Indeed, I seek to understand what kind of work this does for them. What are the meanings they attach to being a transhumanist, and how does it enable them to distinguish themselves from a wider society that is in many ways also committed to scientific and technological change?

The net result of all of this, is that from a methodological standpoint, my back to the future approach to transhumanism may position me closer to disciplinary ancestors such as Tylor and Frazer than it does to Malinowski or Margaret Mead. The book that follows is not a fieldwork inspired ethnography in the 'traditional' sense, and for some, that might be considered a limitation or "problem" (Farman 2019, 60).[15] However, in my view, what defines anthropology as a discipline is not its specific research methods, per se; indeed, if that is the case, then an increasing number of sociologists, political scientists, and even journalists should be calling themselves anthropologists. Rather, what defines anthropology as a discipline is its distinct mode of inquiry. A mode of inquiry that invokes and contributes to the comparative study of humankind is, I propose, anthropological through and through.

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Is Transhumanism a Revitalization Movement?

Exactly what kind of movement is transhumanism? The answer to this question varies. Some have described transhumanism as an intellectual or philosophical movement. Others describe it as a social or cultural movement. Transhumanism has also been portrayed as a political movement, and indeed there is a "Transhumanist Party." Moreover, despite the self-understandings of its largely atheistic participants, scholars have proposed that there are good grounds for conceiving of transhumanism as a new religious movement. Regardless of which qualifier is emphasized, and in many instances it turns out to be a combination of these, one thing is certain: a commitment to change, indeed, a commitment to moving the human condition "forward," is at the very center of the transhumanist worldview and agenda.

For instance, in their response to the question "What is transhumanism?" Humanity + (formerly known as the World Transhumanist Association) states that transhumanism is "a way of thinking about the future that is based on the premise that the human species in its current form does not represent the end of our development but rather a comparatively early phase."[1] It defines transhumanism as:

1. The intellectual and cultural movement that affirms the possibility and desirability of fundamentally improving the human condition through applied reason, especially by developing and making widely

available technologies to eliminate aging and to greatly enhance human intellectual, physical, and psychological capacities.

2. The study of the ramifications, promises, and potential dangers of technologies that will enable us to overcome fundamental human limitations, and the related study of the ethical matters involved in developing and using such technologies.

In describing the intellectual roots from which transhumanism arose, Humanity + further explains:

Transhumanism can be viewed as an extension of humanism, from which it is partially derived. Humanists believe that humans matter, that individuals matter. We might not be perfect, but we can make things better by promoting rational thinking, freedom, tolerance, democracy, and concern for our fellow human beings. Transhumanists agree with this but also emphasize what we have the potential to become. Just as we use rational means to improve the human condition and the external world, we can also use such means to improve ourselves, the human organism. In doing so, we are not limited to traditional humanistic methods, such as education and cultural development. We can also use technological means that will eventually enable us to move beyond what some would think of as "human."[2]

Transhumanism, therefore, is predicated upon a profound dissatisfaction with the current human condition and "the biological chains" that keep human beings from actualizing their fullest potential. Part of what sets transhumanists apart from other technological enthusiasts, therefore, is that they are committed to using science and technology not just to usher in a new kind of culture and society, but also a new kind of posthuman species.

This deliberate, conscious, and totalizing attempt to usher in a more satisfying future suggests that there may be some affinities between the contemporary Transhumanist Movement and other revitalization movements that anthropologists have long studied.

More than a half century ago, the anthropologist Anthony Wallace defined a "revitalization movement" as a "deliberate, conscious, organized effort by members of a society to construct a more satisfying culture" (Wallace 1956, 265). For Wallace, then, the early Buddhist cults, the French Revolution, the Ghost Dance movement, and various communal living experiments launched in the 1960s were all tokens of the special type of cultural change phenomenon he labeled "revitalization" (Wallace 1956, 264). Wallace proposed that such movements develop as responses to increasing societal stress and disorder, and he provided a processual model through which to chart and compare the development of revitalization movements across time and place.

In this chapter I apply Wallace's model to the contemporary Transhumanist Movement with the aim of exploring how transhumanism is both *like* and *unlike* other revitalization movements studied by anthropologists. Such an exercise has a number of merits. First, it enables me to highlight features that have not been flagged in other histories of "transhumanist thought" (Bostrom 2005; Herrick 2017; Hughes 2004; Klerkx 2006; Tirosh-Samuleson 2012). Second, it provides an opportunity to consider how transhumanism is emerging as a catalyst of cultural change in the United States. Third, invoking the revitalization paradigm provides a way to recast debates as to whether transhumanism is best understood as a new religious movement or a secular response to the disenchantments of modernity (Farman 2012a; Geraci 2010; Tirosh-Samuelson 2012). Finally, by returning to Wallace's work, this chapter ultimately seeks to demonstrate that models are still good to think with: they help promote comparative modes of inquiry by enabling us to more readily recognize correspondences and differences between social phenomena occurring in various times and places. Considering how transhumanism diverges from Wallace's model is thus just as instructive as considering the ways in which it may conform.

Is Transhumanism a Revitalization Movement?

1.1 Revitalization

In a 1956 essay entitled "Revitalization Movements," Anthony Wallace developed a comparative model for explaining and tracing the development of revitalization movements across time and place. He argued that although revitalization movements take many forms and can variously deploy religious or secular means to achieve their ends, they also share certain defining features and stages.[3] First, he noted that revitalization movements differ from other processes of cultural change in two notable ways: their efforts to transform society are *deliberate* and they are *totalizing*. Revitalization movements seek to establish a new "Gestalt" predicated upon new understandings of "self," "society," "culture," "nature," "body, and of ways of action" (Wallace 1956, 267).

Wallace further argued that revitalization movements are responses to societal stress and disorder. Invoking an organismic analogy, Wallace proposed that when members of a society share a common "mazeway" or vision of the world that helps them successfully confront the challenges of life in an adaptive and satisfying manner, society more or less functions in a "steady state" and people experience a general sense of well-being, security, and social integration. However, when changes occur that begin to rupture this balance, whether they be social, political, economic, or environmental, this sense of equanimity can give way to a period of increasing stress and societal disorder. People begin to feel dissatisfied with the current state of affairs. In response, some exhibit regressive tendencies and cling ever more tightly to their accustomed ways of doing things even though they are no longer adaptive, whereas others respond by embracing new ways of being in the world. Wallace argued that over time, this divergence in responses heightens the sense of stress and disunity in society and generates a period of "cultural distortion." "In this phase, the culture is internally distorted; the elements are not harmoniously related but are mutually inconsistent and interfering" (Wallace 1956, 269). In other words, society reaches a crisis point, and it is

precisely at this point, Wallace proposed, that revitalization movements are likely to emerge.

Wallace outlined six phases of the revitalization process: (1) Mazeway reformulation, (2) Communication, (3) Organization, (4) Adaptation, (5) Cultural transformation, and (6) Routinization. Wallace argued that in many cases revitalization movements are arrested early on in their development or purposively squashed by opposing forces. However, when all of these phases have been successfully reached, an overall cultural transformation occurs and the movement gives way to a "new steady state" in which society and its members begin to function smoothly again in accordance with the new mazeway that has been instituted.

While Wallace argued that all revitalization movements are aimed at generating a more satisfying culture and delineated a series of uniform stages through which these movements develop, he also observed that revitalization movements can vary in terms of "their choice of identification." Some revitalization movements are predicated upon efforts to "revive a traditional culture now fallen into desuetude," some "profess to import a foreign cultural system," and other movements, which strive for neither revival nor importation, "conceive that the desired cultural state, which has never been enjoyed by ancestors or foreigners, will for the first time in a future Utopia" (Wallace 1956, 275). As will be seen, the Transhumanist Movement is animated by a futuristic, techno-utopian impulse.

Over the years, Wallace's work has been critiqued on several grounds.[4] Some have rejected his model for its outdated invocation of "the organismic analogy," pointing out that societies rarely exist in a steady state, nor should they be conceptualized as organic wholes. Others have taken issue with the idea that revitalization movements are as consciously and deliberately organized as Wallace proposed, showing that oftentimes such movements develop from a more haphazard or contingent set of circumstances. They have also demonstrated that the stages of development Wallace proposed do not always follow in the

sequential order he posited. More recently, scholars have argued that Wallace painted "too rosy" a picture of revitalization movements and did not pay adequate attention to the way such movements give rise to socially divisive outcomes and tendencies (Bennett 2020). Lastly, many have taken issue with Wallace's attempt to apply psychological perspectives to understandings of collective phenomena. While such efforts were in vogue during the heyday of the Culture and Personality School, of which Wallace was a key figure, today, many anthropologists look askance at attempts to "psychologize" society. These critiques are not without merit. However, in the remainder of this chapter, I hope to show that working with *a* model, even an outdated and in some ways deficient one, can yield insights that might otherwise go unnoticed.

1.1.1 *Transhumanism and Cold War Cultural Distortion in the United States*

While precursors to the Transhumanist Movement in Russia date back to the mid-nineteenth century (Bernstein 2019), in the United States the Transhumanist Movement began to crystalize in southern California during the late 1980s and early 1990s. In the late 1980s, southern California was witnessing the ascendance of a technology boom and many of the early proponents of transhumanism were awash in a forward-looking techno-optimism (Hughes 2010). On the surface of things, therefore, it seems difficult to argue that transhumanism emerged from a period of societal stress and disorder. However, a closer look suggests that the development of transhumanism can be understood as a response to a period of "cultural distortion" that was in large part produced by the apocalyptic ethos of the Cold War. As numerous scholars have observed, the Cold War had a traumatic impact on popular American society. It engendered pervasive cultural fears and fantasies of communist "contagion" and nuclear annihilation (Bennett 2015; Lahr 2007; Whitfield 1996). As Stephen Whitfield notes, "The sudden end of the American

nuclear monopoly meant that Communism could be extirpated only at the price of catastrophic violence" (Whitfield 1996, 5). However, since a "preventive nuclear war" was "excluded as a policy option, anti-Communism seemed to redouble its energies at home" (Whitfield 1996, 9), leading to a "Red Scare" animated by virulent suspicion and a vigilant policing of the enemy within (Whitfield 1996, 9).

Indeed, Whitfield goes as far as to suggest that in their efforts to excoriate this threat, members of the political right "adopted the methods of their Communist enemies" (Whitfield 1996, 14). Cold War politics became animated by a process of symmetrical schismogenesis in which the United States and Soviet Union were continually "reacting to the reactions of their opponents" (Bateson [1936], 1958, 186–187) and conflicts and tensions escalated.[5]

Though panics over the Red Scare and nuclear annihilation were particularly pronounced during the McCarthy Era, this ethos persisted well into the 1980s. In 1984, Ronald Reagan was able to mobilize these fears to successfully convince the American Congress to fund the Star Wars Defense program which was designed to counter the threat of a nuclearized Soviet Union. Indeed, I propose that symmetrical schismogenesis not only characterized political relationships *between* the United States and Soviet Union in the late 1980s, but it also characterized relationships between two very different responses to Cold War apocalyptic dread in the United States: evangelicalism and transhumanism.

As Angela Lahr documents in her fascinating study, *Millennial Dreams and Apocalyptic Nightmares: The Cold War Origins of Political Evangelicalism,* "After World War II, the Cold War created a mainstream political culture more receptive to evangelical thought" and "evangelical apocalypticism provided the state with a rhetorical tool for fighting communism" (Lahr 2007, 13–14). Lahr points out that by the 1980s, under the leadership of Reverend Billy Graham and in alliance with the emergence of "the new right" which helped propel the presidency

of Ronald Reagan, the social and political influence of the evangelical community "peaked" (Lahr 2007, 13). Similarly, Religious Studies scholar Ronald Cole-Turner observes, "In the aftermath of World War II and with the proliferation of nuclear weapons, the question of the future became increasingly urgent for humanity and for theology" (Cole-Turner 2012, 781). "As hope for social progress or technological salvation faded even more in the United States after World War II," Cole-Turner writes, evangelical Protestants abandoned the social optimism of their nineteenth-century predecessors, and "popular American religion focused increasingly on individual believers and their salvation" (Lahr 2007, 13). In what might be characterized in Wallace's terms as a "regressive" response to the changes and crises of the time, evangelicals proposed that the way to a brighter future required replacing reason with faith, and human hubris with humble devotion. Their path to revitalization was decidedly anti-science and technology. As evangelist and prolific author of popular Christianity books, Hal Lindsey, opined:

Someday, a day that only God knows, Jesus Christ is coming to take away all those who believe in Him. He is coming to meet all true believers in the air. Without benefit of science, space suits, or interplantetary rockets, there will be those who will be transported into a glorious place more beautiful, more awesome, than we can possibly comprehend. (quoted in Cole-Turner 2012, 781)

Indeed, from the evangelical standpoint, the transhumanist attempt to use science and technology to engineer a better future was, and in many cases still is, regarded as *the* problem. For instance, in a book entitled *Genetic Armageddon: Today's Technology – Tomorrow's Monsters*, Stephen Quayle, another evangelical Christian who has made a career out of castigating transhumanism, wrote:

A terrifying future thunders toward mankind, an impending fate embodied by monstrous, blasphemous combinations of human and animal genetic materials, of man/machine cyborgs, and of beings not only with increased capacities and extended lifespans, but also with re-engineered morality void

of compassion. This future is so abhorrent as to almost defy the imagination. These new beings, and the transhumanists looking forward to their arrival, will not be benevolent. (Quayle 2003)

In contrast to evangelicals, the early transhumanists who began to organize in the late 1980s responded to such doomsday visions of the future with an almost maniacal optimism, arguing that with more science, more reason, more technology, and free enterprise, human beings could transcend their biological limitations and achieve godlike powers and eternal life.[6]

It is beyond the purview of this chapter to fully discuss how such polarized conceptions of the future have come to animate evangelical and transhumanist worldviews, as well as create fascinating tensions within the contemporary American cultural and political order.[7] However, I do want to stress that it would be remiss to consider one without the other, for in the United States, transhumanist efforts at revitalization have taken place in a "mutually interfering" (Wallace 1956) debate with evangelical efforts to save the world by ushering in "an old-fashioned revival." As Billy Graham pronounced in 1949 at the dawn of the Cold War, "God is giving us a desperate choice, a choice of either revival or judgment. There is no alternative…. Unless the Western world has an old-fashioned revival, we cannot last!"[8] For transhumanists, by contrast, the critical choice at the end of the twentieth century was not between "revival or judgment," but as will be seen below, it was framed as a choice between entropy or extropy.

1.1.2 *Phase I: Mazeway Reformulation*

When I was about 10, I went through a period of real interest in the occult. I was very interested in the idea of any kind of paranormal powers, having abilities beyond the normal human ones. (Max More)[9]

According to Wallace's model, the first phase of revitalization movements is the phase of "mazeway reformulation." During this

period a visionary individual, inspired by revelation or contact with the supernatural, emerges to propose a new way of living in the world. "The reformulation," Wallace noted, "seems normally to occur in its initial form in the mind of a single individual rather than to grow directly out of group deliberations" (Wallace 1956, 270) and is frequently the by-product of a dream-like, "hallucinatory" experience which produces a "radical inner change in personality soon after the vision experience" (Wallace 1956, 271). In secular movements, "where there is no vision," Wallace noted that "there occurs a similarly brief and dramatic moment of insight, revelation, or inspiration, which functions in most respects like the vision in being the occasion of a new synthesis of values and meanings" (Wallace 1956, 271). The visionary, who often has suffered their own forms of loss, hardship, and deprivation, articulates a wish for a more satisfying world and warns that apocalyptic consequences could ensue if the new way of life is not adhered to.

When it comes to transhumanism in the United States, three differences immediately stand out when comparing this phase of the movement to other revitalization movements. First, in the case of transhumanism there have been numerous visionaries who have played an influential role in mazeway reformulation. For instance, in the late 1970s, the futurist F. M. Esfandiary, who later changed his name to FM-2030, was highly influential in promoting the idea that human beings could use technology to steer the course of their own evolution and overthrow "the tyranny of death" (Hughes 2004, 193). In the 1980s, Hans Moravec's work became essential reading for transhumanist thinkers interested in the possibility of mind uploading, and throughout the nineties and the first decade of the twenty-first century, Ray Kurzweil furthered this vision of technological transcendence among a devoted group of "Singulatarians." Second, as Geraci notes, far from being the product of a single mind, the visions of these individuals were often inspired by futuristic dreams that were first conjured through their exposure to widely read science fiction authors (Geraci 2010, 48). Thus, transhumanist visions have been less the product

of individual inspiration than collective creativity. Third, in contrast to other case studies, where "depravation" tends to be a precipitating condition of religious movements, and disenfranchised individuals emerge to bid for a better world and express their disappointment in the current order of things (Aberle 1962), the 'prophets' of transhumanism have by and large come from backgrounds of considerable privilege. In the United States, the pioneers of transhumanism were predominately white, affluent, highly educated males who were confident in their abilities to leave an indelible mark on the future of humanity. On the surface of things, therefore, they would seem unlikely candidates to call for a complete overhall of the existing order. However, as Aberle has noted, "deprivation" is always experienced in "relative" terms and refers to "a negative discrepancy between legitimate expectation and actuality" (Aberle 1962, 209).

Precisely because the early transhumanists were driven by such an extreme form of techno-optimism, their "legitimate expectations" rendered them impatient and dissatisfied with their current human condition. They believed they could use technology to surmount the entropic forces that mere mortals face and they fully expected to become the beneficiaries of "perpetual progress," "boundless expansion," "intelligent technology," "dynamic optimism," and "spontaneous order" (Bostrom 2005, 15). Indeed, these were the founding principles of one of the first major transhumanist organizations, the Extropy Institute, which was established in 1992. The Institute, which would later develop into The World Transhumanist Association and then Humanity +, initially functioned largely on the basis of its email listserve. It was cofounded by Max More, a philosopher who had emigrated from Great Britain to the United States to pursue a PhD at the University of Southern California, and Tom Morrow, a Silicon Valley attorney. As Nick Bostrom has noted in his history of transhumanist thought, the Extroprians elaborated a brand of transhumanism that had "a clear libertarian flavor" and reflected the "irrational exuberance" of "the dot-com era" (Bostrom 2005, 15). For

instance, the Institute described its commitment to perpetual progress as follows:

Seeking more intelligence, wisdom, and effectiveness, an indefinite lifespan, and the removal of political, cultural, biological, and psychological limits to self-actualization and self-realization. Perpetually overcoming constraints on our progress and possibilities. Expanding into the universe and advancing without end. (Hughes 2010, 4; More 1998)

Thus, in expounding the "Principles of Extropy," More and Morrow offered a new mazeway that promised to put transhumanist followers in touch with boundless powers and possibilities throughout the universe. Though it is difficult to assess the degree to which More and Morrow experienced "inner changes" as a result of their new extropian visions, outwardly at least, the change was marked. They replaced their original birth names, Max O'Conner and Tom Bell, with names that would symbolize their commitment to pursuing an enhanced future. As More himself remarked of his new last name, "It seemed to really encapsulate the essence of what my goal is: always to improve, never to be static. I was going to get better at everything, become smarter, fitter, and healthier. It would be a constant reminder to keep moving forward" (Bostrom 2005, 14). Similarly, Morrow noted that his name change was "a great expression of self-transformation…. This is how I'm changing myself: I'm going to change the way people think of me – because people think of you, in part by the way you're named."[10]

1.1.3 *Phase II: Communication*

Wallace proposed that the second phase of revitalization movements is the phase of communication. During this period, the inspired individual begins to spread his revelation to others in "an evangelistic or messianic spirit" and the individual takes on the status of a prophet. The prophet proclaims that by following his message converts will come under the

protection of "supernatural beings" and "that both he and his society will benefit materially from an identification with some definable new cultural system." As the prophet gathers disciples, "these assume much of the responsibility for communicating the 'good word,' and communication remains one of the primary activities of the movement during later phases of the organization" (Wallace 1956, 273).

Although the prophets of transhumanism tend to shy away from talk of supernatural beings, they most certainly deify intelligence, reason, science, and technology. Indeed, they present these as the ultimate powers that will emancipate human beings from the more disappointing aspects of their human nature and provide them with innumerable benefits in the future. As Max More explains:

Becoming posthuman means exceeding the limitations that define the less desirable aspects of the "human condition." Posthuman beings would no longer suffer from disease, aging, and inevitable death…. They would have vastly greater physical capability and freedom of form – often referred to as "morphological freedom" (More 1993; Sandberg 2001). Posthumans would also have much greater cognitive capabilities, and more refined emotions (more joy, less anger, or whatever changes each individual prefers). (More 2013, 4)

In the years following the establishment of the Extropy Institute, communication of this message was greatly facilitated through annual conferences and conventions, the continued publication of *The Extropy Magazine* (which actually preceded the development of the Institute and was first published in 1988), and a growing online presence of transhumanists discussion blogs and forums.

Furthermore, despite the secular nature of their promises, transhumanists did and do communicate their messages in an "evangelistic spirit." For instance, biomedical gerontologist and self-professed transhumanist "techno-visionary" Aubrey De Grey explicitly describes himself as a "crusader" and characterizes his longevity research as an effort

to "evangelize" (Lain 2016, 6). He states that his goal is to "save lives" by convincing people that with the proper technological interventions aging is *not* inevitable. The evangelistic nature of transhumanist communication can also be gleaned in the profusion of "manifestos" transhumanists publish. For instance, AI researcher and self-professed transhumanist Ben Goertzel lays out his vision for life in the "Posthuman Age" in *A Cosmist Manifesto* (Goertzel 2010). As I discuss in Chapter 3, the transhumanist philosopher and one of the founders of the World Transhumanist Association David Pearce published *The Hedonistic Imperative* online, describing it as a "manifesto" that "outlines a strategy to eradicate suffering in all sentient life."[11] More recently, left-leaning members of the Transhumanist Movement have been working to produce an "Anarcho-Transhumanist Manifesto" and have been soliciting contributors online to edit the document.[12] While not explicitly "manifestos," Religious Studies scholar Robert Geraci has also explored how prominent transhumanists such as Hans Moravec, Kevin Warwick, Hugo de Garis, and Ray Kurzweil have used the genre of popular science books, which he refers to as the genre of "Apocalyptic AI" to garner "prestige" and resources for their transhumanist visions and research projects (Geraci 2010, 2).[13] Communication of the transhumanist message and vision of the future has remained absolutely central to the movement's development.

1.1.4 Phase III: Organization

The third phase of revitalization movements is the phase of organization. During this period, "converts are made by the prophet." Some of these converts are made through ecstatic experiences generated by immersion in a group, or through private, revelatory visions. Others, however, are "convinced by more or less rational arguments" or "by considerations of expediency and opportunity" (Wallace 1956, 273). Like the prophet, many of the converts undergo a revitalizing personality transformation

and feel beholden to their "charismatic" leader. In addition to followers, a "small clique of special disciples (often including few already influential men) clusters about the prophet and an embryonic campaign organization develops" (Wallace 1956, 273). Finally, Wallace noted that during this period, the action program of the organization "is effectively administered in large part by a political rather than a religious leadership" (Wallace 1956, 273).

Several of these features can be observed in the development of the Transhumanist Movement. By the end of the twentieth century and well into the first decade of the twenty-first, the Transhumanist Movement gained increasing traction through a number of key organizations and attempts to attract converts through "rational arguments," promises of opportunity, collective ritual gatherings, and the formal codification of the principles of transhumanism.[14] Indeed, although the late 1990s saw the emergence of a number of different transhumanist groups (Extropians, Upwingers, Singulatarians), in 1998, Swedish philosopher Nick Bostrom and British philosopher David Pearce established The World Transhumanist Association as a larger umbrella organization. As Bostrom explains, the purpose was:

to provide a general organizational basis for all transhumanist groups and interests, across the political spectrum. The aim was also to develop a more mature and academically respectable form of Transhumanism, freed from the 'cultishness' which, at least in the eyes of some critics, had afflicted some of its earlier convocations. The two founding documents of the WTA were the Transhumanist Declaration (see appendix), and the Transhumanist FAQ (v. 1.0). The Declaration was intended as a concise consensus statement of the basic principle of transhumanism. The FAQ was also a consensus or near-consensus document, but it was more ambitious in its philosophical scope in that it developed a number of themes that had previously been, at most, implicit in the movement. More than fifty people contributed comments on drafts of the FAQ The document was produced by Bostrom but major parts and ideas were also contributed by several others.… (Bostrom 2005, 15–16)

Is Transhumanism a Revitalization Movement?

The establishment of the WTA gave rise to the founding of the annual TransVision Conference, the first of which was held in 1998, and the publication of the online journal, *The Journal of Transhumanism*. According to Bostrom, with these measures, "The WTA's membership grew rapidly, and local chapters mushroomed around the world" (Bostrom 2005, 16) Transhumanists also began to make forays into other key institutions and organizations. For instance, transhumanists, William Sims Bainbridge and Mihail Roco came to "hold positions of power and influence in government agencies such as the National Science Foundation, facilitating the investment of financial resources in the project of human technological augmentation." Transhumanist enhancement initiatives also became of increasing interest to DARPA, the research facility of the United States Ministry of Defense (Tirosh-Samuelson 2012, 717).

A critical phase in The World Transhumanist Association's development came in 2001 when sociologist James Hughes from Trinity College was elected secretary of the association. "Within short order," Bostrom writes, "the WTA adopted a constitution, incorporated as a non-profit, and began building up a vigorous international network of local groups and volunteers" (Bostrom 2005, 16). While Hughes may not be known for the kind of "cultish" charisma that has been ascribed to transhumanist visionaries such as Ray Kurzweil or Martine Rothblatt, over the last several years, he has emerged as one of the most influential 'prophets' of the movement and he has played a pivotal role in adapting the transhumanist message to reach a larger and more diverse audience.

1.1.5 Phase IV: Adaptation

The fourth phase of Wallace's revitalization model is the phase of adaptation. Wallace noted that as revitalization movements are revolutionary they will "almost inevitably encounter some resistance" and reach a phase where they are required to use "various strategies" to adapt or modify their message to make it more amenable to the public,

or to successfully counter opposition from their critics (Wallace 1956, 274). This can be vividly seen in the case of transhumanism.

In the first decade of the twenty-first century, the "irrational exuberance" of the dot-com boom began to give way to a more sober and pessimistic structure of feeling within American society. The horrific attacks of September 11, the Gulf War, the financial collapse of 2008, threats of global warming, and concerns of artificial intelligence going awry began to suggest that the future was not as bright as it once seemed. During this period, transhumanists began to adapt their message in four key ways. They also further expanded the institutional means by which they sought to counter their "bio-conservative" and "bio-luddite" critics (Hughes 2004).

One of the first changes they made was "to temper their expectations about progress" and exchange their hyperoptimism for an "anti-millennial realism" (Hughes 2010, 5). For instance, in 2001, Nick Bostrom published an influential essay entitled "Analyzing Human Extinction Scenarios and Related Hazards," which "focused on reducing the civilization-ending potentials of asteroid strikes, genetic engineering, artificial intelligence and nano-technology" (Hughes 2010, 5). By 2009, this shift in sensibility was codified in the new language of The Transhumanist Declaration, whereas the 1998 version read:

Transhumanists think that by being generally open and embracing of new technology we have a better chance of turning it to our advantage than if we try to ban or prohibit it…. In planning for the future, it is mandatory to take into account the prospect of dramatic technological progress. It would be tragic if the potential benefits failed to materialize because of ill-motivated technophobia and unnecessary prohibitions. On the other hand, it would also be tragic if intelligent life went extinct because of some disaster or war involving advanced technologies. (Bostrom 1998)

The 2009 version was amended to read:

We recognize that humanity faces serious risks, especially from the misuse of new technologies. There are possible realistic scenarios that lead to the

loss of most, or even all, of what we hold valuable. Some of the scenarios are drastic; others are subtle. Although all progress is change, not all change is progress. (Bostrom 2009)

Research effort needs to be invested into understanding these prospects. We need to carefully deliberate how best to reduce risks and expedite beneficial applications. We also need forums where people can constructively discuss what should be done, and a social order where responsible decisions can be implemented.

Reduction of existential risks, and development of means for the preservation of life and health, the alleviation of grave suffering, and the improvement of human foresight and wisdom should be pursued as urgent priorities, and heavily funded.[15]

In addition to tempering their optimism, the second modification to the transhumanist message included cultivating a more academic and ethically responsible image. One of the ways transhumanists rebuffed evangelical accusations that they were blindly ushering in an immoral, monstrous future was by founding the Institute for Ethics and Emerging Technologies. The institute was founded by Nick Bostrom and James Hughes in 2004 as a "nonprofit think tank," and it has now emerged as a central hub of transhumanist collaboration and research. The stated purpose of the institute has been to:

promote ideas about how technological progress can increase freedom, happiness, and human flourishing in democratic societies. We believe that technological progress can be a catalyst for positive human development so long as we ensure that technologies are safe and equitably distributed. We call this a "technoprogressive" orientation.[16]

The Institute's flagship journal was also renamed from *The Journal of Transhumanism* to the more mainstream-sounding, *The Journal of Evolution and Technology*.

Third, while transhumanists such as James Hughes still regard evangelicals, as well as secular "bio-luddites" and "bio-conservatives"

as adversaries to their cause, their efforts to become more temperate have also resulted in a less antagonistic relationship with religious groups. Critical atheism and disbelief have given way to a willingness to explore common ground between religion and transhumanism. For instance, in 2007 Hughes (who happens to be a former Buddhist Monk, and is currently working on a project called *Cyborg Buddha* that considers the articulations between transhumanism and Buddhism) published an essay in which he explored "The Compatibility of Religious and Transhumanist Views of Metaphysics, Suffering, Virtue and Transcendence in an Enhanced Future."[17] Perhaps, in an effort to counter ideas of a monstrous or inhuman future, in 2008, The World Transhumanist Association also changed its name to Humanity +, suggesting that although revolutionary, the future would still have a place for some kind of humanity.

The fourth major adaptation transhumanists have made regards their political message and orientation. Rejecting the views of their libertarian counterparts who scorn governmental regulation, champion free market enterprise, and have otherworldly aspirations for a technological transcendence in the future, Bostrom and Hughes have been actively advocating for a more grounded, "technoprogressive," "democratic transhumanism." This democratic transhumanism is intended to appeal to a more diverse, civically minded, and less-elite base. In 2004, Hughes provided a detailed account of democratic transhumanism with the publication of his book, *Citizen Cyborg: Why Democratic Societies Must Respond to the Redesigned Human of the Future*. Like transhumanist "prophets" before him, he too pressed for the urgency of change and the need for revitalization; he wrote:

Luddism is a political dead-end for progressive politics. Left-wing Luddism is boring and depressing, and has no energy to inspire people to create a new and better society. The Left was built by people inspired by millennial visions, not by people who saw only a hopeless future of futile existential protest against the juggernaut of fascist Progress. If there is to be a future for progressive politics it has to come from a rebirth of a sexy, high-tech

vision of a radically democratic future, a rediscovery of the utopian imagination. As Russell Jacoby says in *The End of Utopia*, "in an era of political resignation and fatigue the utopian spirit remains more necessary than ever. It evokes neither prisons nor programs, but an idea of human solidarity and happiness…. Something is missing. A light has gone out. The world stripped of anticipation turns cold and grey." What is missing, the light that has gone out for the Left, is the idea that the human condition can be radically transformed, that we can accomplish more than a defense of the status quo against a capitalist version of the future. To rekindle a progressive utopianism, the Next Left, the twenty-first-century Left, needs visionary projects worthy of a united transhuman world, projects like guaranteeing health, intelligence and longevity for all, building world government, eliminating work and colonizing a Solar System. (Hughes 2004, 194)

Moreover, Hughes not only provided the vision, he also laid out an organizational plan to achieve it. As he further explained:

We need transhumanist think tanks, journals, conferences and lobbyists. We need transhumanists meeting the bioLuddites toe-to-toe in the public square, defending the rights of persons to use reason to control their own affairs. We need transhumanist clubs and study groups on the campuses, and in every city in every country, educating the public about the threats and promises to come. We need a *movement* fighting for a positive future, not just fighting the future. (Hughes 2004, 260, italics mine)

Thus, within the span of a decade, transhumanism in the United States went from advertising itself to a predominately, white, male, libertarian elite base dominated by Silicon Valley entrepreneurs to a more varied group of constituents, who are nonetheless united by shared global interests and concerns.[18] Transhumanists such as James Hughes and Nick Bostrom have worked to ensure that the Transhumanist Movement would not be dominated by a "single voice" (Escobar 1992, 421).

1.1.6 Phase V: Cultural Transformation

Wallace proposed that in the fifth phase of revitalization movements a cultural transformation takes place as "a majority of the population"

comes to accept "the new religion with its various injunctions" and "a noticeable social revitalization occurs" (Wallace 1956, 275). Here again, transhumanism departs from the model. Transhumanism is still a comparatively small movement. The number of people who self-identify as transhumanists and actively participate in its key organizations or online discussion forums is probably about ten thousand worldwide.[19] And there is, as Hughes and others have noted, a very definite and vocal contingent of the American population that abhors and rejects the philosophy, aspirations, and practices of transhumanism (Hughes 2004, 2012). Nonetheless, the cultural influence of transhumanism has indeed come to permeate contemporary culture in the United States. As Hava Tirosh-Samuelson observes, "transhumanist themes pervade and shape many aspects of culture, society, and politics. The cultural significance of transhumanism goes well beyond the numbers of people who are self-declared transhumanists" (Tirosh-Samuelson 2012, 717–718). Tirosh-Samuelson proposes that one of the keys to understanding the pervasive influence of transhumanism is that it "addresses not only scientific and technological changes but also deeper human fears about death and the deep-seated human yearning for immortality" (Tirsosh-Samuelson 2012, 728). Transhumanism's influence, she continues:

Lies not only in the power of contemporary communication technology but also in the peculiar hybrid of religious and secular elements. On the one hand, transhumanism expresses deep religious impulses in a secularized idiom of science and technology that previously had been taken to be in contrast to religion, but on the other hand, transhumanist reflects widespread cultural dispositions toward technology that it crystalizes into an explicitly teleological vision of the future – an eschatology. (Tirosh-Samuelson 2012, 729)

According to Tirosh-Samuelson, transhumanism also "offers a vision of the right moral ordering of self and society in relation to technology-driven world transformation. In the transhumanist normative visions, technology serves as the driving force of cultural change, including

changes in religious and moral sensibilities" (Tirosh-Samuelson 2012, 728). These new moral sensibilities can be gleaned in the pronouncements of people such as Aubrey De Grey, who has openly declared that "denying people an indefinite life span" by withholding the application of life-extending technologies is "immoral" (Miller and Wildson 2006, 54).

1.1.7 *Phase VI: Routinization*

In Wallace's model, the final phase of the revitalization period is the period of routinization. Wallace proposed that during this period, the new religion becomes "established as normal in various economic, social, and political institutions and customs" (Wallace 1956, 275). Here again, transhumanism diverges from Wallace's model, for although transhumanism's influence can be felt in many areas of society, it would be premature to suggest that it has become fully routinized. As noted above, there are still a number of evangelical and secular groups who fully reject the premises of transhumanism and are passionately committed to forestalling transhumanist projects and visions.

However, that being said, it is also clear that transhumanist efforts to use science and technology to transcend the biological limitations of humankind are playing a pivotal role in reconfiguring conceptions of the normal. Indeed, in subsequent chapters I examine how transhumanist initiatives such as radical life extension, cognitive enhancement, and body augmentation are actively establishing new standards of *techno-normativity* that could have profound consequences for how subjects and societies will be disciplined and stratified in the future. Thus, although not yet fully "routinized," transhumanist initiatives do stand to play a very influential role in shaping the future.

1.2 **Conclusion: Revitalization Movements and Models**

In 2004, almost fifty years after the publication of his seminal essay, Anthony Wallace wrote, "revitalization does not merely occur among

the fringe peoples of the world but, in fact, happens in the belly of the beast as well" (Wallace 2004, ix). Wallace proposed that "studies of large, hegemonic, imperial systems that disequilibrate not just from the external impact of alien cultural hegemony or natural disaster but from internal social, ideological, and economic conflicts of interest intensifying over time" would "complement the already successfully analyses" of revitalization movements among smaller-scale societies beset by the impacts of colonialism (Wallace 2004, xi). In fact, Wallace encouraged anthropologists to turn their attention to the United States. He wrote:

I would suggest, that there is a fertile field for exploration of revitalization processes right here at home in the United States. In recent years we have seen the rise of a militant Christian Right, inspired by fundamentalists ideas taken straight out of that fountain of Christian revitalization movements, the Book of Revelation. And in a more secular idiom, we have seen a neoconservative movement, many of whose intellectuals spring from departments of political science, taking command of American foreign policy. Neoconservative politicians wage "culture wars," demanding the replacement of "politically correct" professorial cliques that purvey a foreign, socialist ethos by patriotic instructors committed to the values of Western civilization, the merits of Western literature, and the knowledge of history as seen from the gates of the "City on a Hill." Although Americans are hardly now a fringe people on the edges of someone else's empire, neoconservatism is in the eyes of its adherents a revitalization movement to save America, and the world, from the perils of Marxism, terrorism, and (in its fundamentalist expressions) the forces of Satan. (Wallace 2004, x–xi)

While Wallace identified the Christian Right and the Neoconservative Political Movement as examples of revitalization in the contemporary United States, in this chapter I have proposed that the Transhumanist Movement provides yet another example of a "conscious and deliberate attempt by members of a society to create a more satisfying culture." For transhumanists, the effort at revitalization stems not from biblical inspiration or an attempt to maintain America's status as "the city on the

hill." Rather, transhumanist attempts at revitalization are animated by a techno-utopic vision of the future that promises to save human beings from the entropic forces of life and usher in an enhanced existence where the species itself is no longer beholden to biological limitations. While there is still a powerful libertarian constituency that believes the most expedient way to achieve this future is by celebrating and promoting free enterprise, more recently, transhumanists such as James Hughes have advocated for a more global, socially democratic transhumanism that seeks to ensure that the benefits of future technologies will be shared by all.

Indeed, from Hughes's vantage point, the very groups Wallace identified as worthy of further study, the Christian Right and "the Neocons," are two of the greatest opponents of a globally oriented, democratic Transhumanist Movement. In fact, Hughes anticipates that in the coming decades of the twenty-first century, clashes between these groups will be "rife with violent potential" (Hughes 2012, 770). He writes:

Much transhumanist politics has been shaped by the libertarian leanings of its affluent, educated, male, and American base. But in the last decade transhumanists have become far more culturally and politically diverse, and its left wing has aligned with an internationalist set of bioliberal intellectuals, setting the stage for robust biopolitical conflicts. Meanwhile both religious transhumanists and groups on the apocalyptic fringe have added accelerating technological change and the advent of posthumans and machine minds to their eschatological visions. With all sides, secular and religious, Left and Right, believing that the future of humanity hangs in the balance, the prospects for violent confrontation are rising. (Hughes 2012, 758)

Zoltan Istvan, who ran for president in 2016 as the nominee of The Transhumanist Party, and who identifies as a "libertarian futurist," also predicts escalating tensions between transhumanism and the Christian Right. He writes:

As a libertarian futurist, I emphatically disagree with stopping the progress of science in anyway unless it is explicitly harming people. I consider it a most serious mission to keep science innovation out of the hands of the

bureaucratic fearmongers and conservative autocratic elites, who prefer to skip evolutionary advancement in order to maintain their status quo of power and uphold their faith-driven religious convictions…. Transhumanists like myself, who encourage shedding our biological limitations in favor of becoming technological gods, are broadly secular. This conflict will soon become a heated ongoing nation-wide discussion, as our majority Christian nation faces the prospect of losing its humanity to the expediency and functionality of science and technology. (Istvan 2018)

Hughes and Istvan thus remind us that although transhumanist initiatives stand to play a pivotal role in changing the cultural landscape in the twenty-first century, they may also be subject to violent opposition. It is, perhaps, too early to predict how these internal "social" and "ideological" "conflicts" or schisms will play out and which visions of revitalization will prevail. Indeed, while Silicon Valley has become a hotbed for promoting transhumanist visions and initiatives, in late May of 2018, two weeks before the California primary elections, Franklin Graham, son of the late Reverend Billy Graham, organized a two-week bus tour and rally campaign to "make California red," by encouraging evangelicals to follow their faith in Jesus and support political candidates who will champion the socially conservative causes that evangelicals hold dear, many of which are antithetical to the transhumanist vision of an enhanced future.[20] For the time being, therefore, it seems that transhumanist and evangelical efforts at revitalization will remain locked in a "mutually interfering" debate with each other.

Hughes' comments also provide an opportunity to return to an issue raised at the outset of this chapter. Is transhumanism best understood as a "new religious movement," or a secular response to the disenchantments of modernity? While Religious Studies scholars Robert Geraci and Hava Tirosh-Samuelson have emphasized the parallels between new religious movements and transhumanism (Geraci 2010; Tirosh-Samuelson 2012), anthropologist Abou Farman has proposed that we view transhumanism as a secular attempt to use techno-scientific means to re-enchant the

universe (Farman 2012a). He points out that for transhumanists, the struggle to define and maintain themselves as secular and not religious is central to the way they conceive of their identity. While the work of these scholars has greatly contributed to our understanding of transhumanism, this chapter has been an attempt to suggest that further insights might be generated, particularly in regard to the way transhumanism operates an agent of cultural change, by changing the question from, is transhumanism a religious or secular movement? To, is transhumanism a revitalization movement? It may be premature to answer this question, for as I have indicated throughout this chapter, there are several ways in which the contemporary Transhumanist Movement diverges from Wallace's model, and as of yet, transhumanism has not progressed through all of the stages that Wallace proposes are central to the constitution of a revitalization movement. However, what I have hoped to demonstrate is that models such as Wallace's can still offer anthropologists valuable analytic tools for interrogating social phenomena and engaging in comparative analyses. Even in the twenty-first century, they remain good to think with.

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Ancestors and Avatars
Immortality Transformed

At the very center of transhumanist attempts to create a more satisfying culture, and usher in an enhanced posthuman species, stands the desire for immortality. The desire for immortality is perhaps as old as humanity itself and it has piqued the interest of anthropologists ever since the beginning of the discipline.[1] For instance, in a 1925 essay entitled *Magic, Science and Religion*, the Polish-born anthropologist Bronislaw Malinowski proposed that "death and its denial – Immortality – have always formed, as they form today, the most poignant of man's forebodings." Malinowski argued that the fear of death and the desire to overcome the finitude of human existence provide some of the most important "sources" of religious life (Malinowski 1925, 47).

In 1974, two years after he was diagnosed with terminal cancer, the anthropologist Ernest Becker posthumously won the Pulitzer Prize for his book, *The Denial of Death*, in which he too argued that death anxiety is a universal feature of human existence. Elaborating on Becker's thesis, the psychologists Robert Jay Lifton and Eric Olson argued that while death anxiety and the desire for immortality are indeed universals, the symbolic means by which human beings attempt to achieve life after death, or maintain a sense of continuity with a world beyond

the self, vary.[2] In some societies, they noted, people achieve "symbolic immortality" by bearing offspring and rearing children; in others they do so by creating great works and leaving a legacy. For much of human history, religion has provided the primary means through which human beings have attempted to achieve a sense of connection after death. Identifying with the natural world and its seemingly eternal qualities provides another route to establishing symbolic immortality, as does participating in ecstatic experiences that enable one to transcend the self (Lifton and Olson 1974).[3]

Although Lifton and Olson regarded these as the most common paths through which symbolic immortality is pursued, they recognized that human beings may come up with other modes as well. They wrote:

Because human images of continuity can assume a limitless number of forms, the modes of immortality can be varied in an unending series as diverse as the dreams and lives of individual people. Human inventiveness in the pursuit of immortality testifies to the persistent urgency of avoiding death anxiety. (Lifton and Olson 1974, 83)

Lifton and Olson further proposed that much can be learned about a society from looking at the path to immortality it promotes, and they emphasized that in order "for modes of immortality to be meaningful, they must relate to the particular kinds of experience characteristic of a given historical period" (Lifton and Olson 1974, 79).

Lifton and Olson's work thus suggests that there is something both very familiar about the transhumanist desire to defeat death, and at the same time, something new about the means by which they propose to do so. For transhumanists believe that death is not a biological inevitability that must be begrudgingly conceded to, but rather, it is a technical problem that can be "solved" or "conquered." Indeed, transhumanists argue that, in contrast to the immortality pursued by people in other times and places, theirs will be not symbolic but *actual*. As Martine Rothblatt, a leading figure in the American Transhumanist Movement,

explains in her book *Virtually Human: The Promise and Peril of Digital Immortality*:

Cyberconsciousness implies what is called technoimmortalilty. Immortality sans technology, living forever, or until the end of time has of course never come anywhere close to happening and is in any event an eschatological concept beyond this book. Humans die within a few decades, and some other forms of nonanimal life can live for centuries or millennia, or even be revived from stasis after millions of years. None of this approaches the end of Time. Instead, we think of immortality as a spiritual concept (as in heaven or via reincarnation) or as a remnant of human existence (as in "Bach's music will live forever"). Cyberconsciousness will make it possible, for the first time, for a person to live in a kind of technoimmortality forever *in the real world*. Mindclones are the key to technoimmortality. (Rothblatt 2014, 283 italics mine)

In this chapter, I explore how the transhumanist attempt to achieve immortality in avatar form through the technology of "mind cloning" compares and contrasts with the many attempts our species has made to achieve immortality in ancestral form. For much of human history, beliefs in the afterlife have been linked to the production of ancestors. The idea that after death, the deceased live on among other departed kin has provided countless societies with a means to both assuage death anxiety and reaffirm the centrality of the kinship system in the social and cosmological order. The differences between pursuing immortality through the making of ancestors and the making of avatars thus invite a number of questions: What are the conditions that "make certain 'modes of immortality' both plausible and desirable – or implausible and undesirable" (Farman 2012a, 38)? What kinds of practices, understandings, and forms of self-discipline are these different modes of immortality predicated upon? What kinds of experiences do, and might, each of these modes of immortality give rise to? And why, as Lifton and Olson asked, are these "modes of immortality" "meaningful" to the people who pursue them? By juxtaposing the ubiquitous making of

ancestors with the making of avatars among transhumanists, I seek to further illuminate the values and beliefs that animate the Transhumanist Movement, and once again, I hope to demonstrate that thinking comparatively can sharpen our abilities to grasp the features of a given social phenomenon.

2.1 The Making of Ancestors

Decades ago, the South African-born anthropologist Meyer Fortes noted that "death is a necessary but not sufficient condition for the attainment of ancestorhood" (Fortes 1965, 124). Ancestors must be made, and the ways they are made vary cross-culturally.[4] In some parts of the world becoming an ancestor involves an elaborate double burial (Hertz 1907; Metcalf and Huntington 1992). In other places, ancestors are produced through the construction of shrines and ritual offerings (Keesing 1970). More recently, anthropologists have proposed that seemingly secular hobbies such as family genealogy and household collecting can be viewed as "generative practices" for "ancestralization" (Cannell 2011; Marcoux 2001; Parrott 2011).

Variations also exist in how ancestors are regarded. Some societies view ancestors as benevolent benefactors who bless and protect their surviving kin, whereas elsewhere, ancestors are regarded as punitive (Tatje and Hsu 1969). Beliefs about the ancestral afterlife reveal a further range of cultural forms. Prior to colonization, for instance, the Wari of Amazonia maintained that upon death, ancestral spirits took the form of white-lipped peccaries that emerged in the forest to be hunted and eaten by their living descendants (Conklin 2004). Alternatively, among the aboriginal Yolngu people of Australia, the presence and power of ancestors is believed to mingle with the land, sky, and water creating a landscape that is "redolent" with their "powers" (Keen 2016, 517). Despite variations in practice and belief, however, certain features of making and relating to ancestors do have wide distribution. In what follows, I discuss

eight features commonly associated with the making of ancestors cross-culturally. Exploring these features can help us to better understand why ancestorhood provides a desirable route to immortality in these societies.

First, anthropological research has shown that beliefs in the afterlives and powers of ancestors are typically found in societies where kinship provides the dominant structure for organizing social relations and configuring identity.[5] Among the Tallensi, of Northern Ghana, for example, attaining ancestorhood is not ensured by doing good deeds or being lovingly remembered. Rather it is contingent upon one's position in the lineage. As Fortes argued, "When a particular deceased – and it is always a particular person – is thus reinstated as an ancestor it is … because he has living descendants of the right category" (Fortes 1965) "For the Tallensi, to have a son is to ensure one's ancestorhood, and that is all the immortality one aspires to" (Fortes 1961, 170).[6]

Second, ancestorhood is fundamentally a means of immortalization, but what is rendered immortal through ancestralization can vary. In some societies, the production of ancestors guarantees the perpetuation of the unique personality, "soul," or "spirit" of the deceased (Newell 1976). Elsewhere, however, what is preserved is the principle of jural authority that the deceased is believed to represent (Fortes 1965). Fortes thus cautioned:

We must not project our vulgar cosmology on to other cultures. The concepts of the psychical constituents of personality held by the Tallensi, the Ashanti, and the Dahomeans, for example, do not have the metaphysical implications of the Christian notion of the soul. They refer to activities, relationships, and experiences that are deemed to fall wholly within the regime of nature. (Fortes 1965)

Indeed, Fortes argued that when a deceased person among the Tallensi is reinstated as an ancestor, "his reinstatement in this status establishes his continued relevance for his society, not as a ghost, but as a regulative focus for the social relations and activities that persist as the deposit,

so to speak, of his life and career" (Fortes 1965). Put differently, Fortes proposes that the Tallensi are more concerned with the deceased's social rather than "spiritual" status. Their primary objective is to ensure that the loss of an individual does not translate into a rupture or tear in the social fabric. This echoes the widespread observation that making ancestors is often a pivotal means for reproducing the social and political order, and reasserting membership in the group (Bloch 1971; Couderc and Sillander 2012; Gluckman 1937; Goody 1962; Keightly 2004; Rasmussen 2000). Whereas twenty-first-century Americans might turn to football or Fourth of July festivities to express and create a sense of social and political belonging, many other societies use the making of ancestors as a pivotal means of recreating society.

Third, as Bruce Lincoln notes, in such societies one of the key ways the social and political order is ensured and legitimated is by mythically enshrining the authority and power of ancestors. In countless societies, myths credit the original ancestors with powers of creation, or with having established the "laws" of how to live. To break with these laws, therefore, is considered a serious moral transgression. "Myth," Lincoln writes, "designates that small class of stories that possess both credibility and *authority*" (Lincoln 1989, 24). He proposes that the "authority of myth" also goes beyond that of offering "charters, models, templates, and blueprints" for living. It also derives from its ability to evoke powerful sentiments based on relations of affinity. "Through the recitation of myth one may effectively mobilize a social grouping" and "help to maintain society in its regular and accustomed forms" (Lincoln 1989, 25). In societies organized around kinship, Lincoln argues, it is "not enough to observe blandly that that various groups and subgroups are defined by reference to apical ancestors: Rather, they are constructed, literally *called into being* by ancestral invocation" (Lincoln 1989, 19). When people gather to pay homage to a shared ancestor, they thus constitute themselves as a collective.

The fourth feature pertaining to the making of ancestors is that in most societies, ancestors *must* be ritually made. The proper rituals must

be performed in order for the deceased to successfully transition from the world of the living to the land of the dead. Indeed, the anthropological literature abounds with fears and stories of rituals gone wrong, or rituals neglected. In such cases, the deceased becomes a disruptive and malevolent ghost who adversely interferes in the lives of the living. Or alternatively, the deceased may remain paralyzed by virtue of his liminal status. For example, describing the making of ancestors among the Bara of Madagascar, Metcalf and Huntington write:

The survivors must bring about the renewed conception and rebirth of their deceased kin into the world of ancestors. This process is as difficult and risky as childbirth. Should it fail, the consequence is nothing short of catastrophic infertility, with the deceased remaining like a dead fetus in the womb of the survivor's world. (Metcalf and Huntington 1991, 129)

Fifth, although the ethnographic record attests to a pervasive desire to maintain relationships with ancestors, cross-culturally there is almost unanimous agreement that the dead *must* leave the mortal world in order for them to be recouped as productive and powerful resources later on. Concomitantly, in order for the deceased to enjoy the immortality, authority, and veneration that ancestor status brings, they too must "accept" the transition. As the Chuuk of Micronesia explain, "spirits" of the deceased "must learn how 'to be dead'" (Dernbach 2005, 99). Moreover, this learning to be dead frequently involves being slowly subsumed by the collective. In societies where the double burial occurs, the deceased is subsumed into the collective when, after a sufficient amount of time has passed and the flesh has decomposed from the body, his or her remains are transferred to a collective burial ground (Bloch 1971; Hasu 2009; Hertz 1907). Alternatively, among the Sora of eastern India, it is believed that upon death a person becomes an ancestor who can be communicated with through the mediation of a shaman. However, over time, the ancestor "dies a second death in the Underworld, at which point it becomes a butterfly beyond the reach of any communication

with the living" (Vitebsky 1993, 15). In both cases, the importance of not just maintaining ties, but also *severing* them is symbolically expressed.

These features of ancestor making suggest a sixth widely distributed trait: the production of ancestors frequently involves particular understandings of temporality. In societies where ancestor veneration abounds, there is a profound recognition that the past is a generative resource for securing the present and producing the future. In some places, "ancestor time" is experienced as a parallel time where the past is conceived as both the present and future (Gell 1992). However, in many places we also find a marked concern with ensuring the proper generational succession. In some societies, for instance, a son cannot offer sacrifices to, or receive blessings from, his patrilineal ancestors, unless his own father has died.[7] Power and authority must be temporally ordered and distributed in ways that mitigate intergenerational conflict or competition.

Seventh, to say that ancestors *must* be ritually made also refers to the fact that the making of ancestors is typically a *duty* carried out on behalf of one's deceased kin, rather than a voluntary expression of personal sentiments. Achieving and maintaining immortality as an ancestor requires others who can be depended upon to fulfill their ritual obligations. In many societies, ancestorhood, like conceptions of personhood more generally, attests to the profound importance of relationality and reciprocity in human relationships. As Patricia McAnany writes, reflecting upon the ritual care ancestors receive, "Only the intersubjectivities of personhood can render comprehensible how the dead linger and display such staying power as a fulcrum around which networks of connections … form, replicate, and transform" (McAnany 2016, x). In contrast to societies where the autonomy of individuals is highly valued, ancestors are frequently found in societies where conceptions of the self are more "sociocentric," permeable, or "partible" (Shweder and Bourne 1984), and where a concern with

fulfilling social roles usually trumps a concern with expressing one's inner authenticity.

Lastly, in many parts of the world, the making of ancestors is not only a collective and lengthy process, unfolding over months and even years: the production of ancestors is also understood as a crucial means of making and securing relationships to places. Indeed, in many of these societies, places and persons are regarded as mutually constitutive of each other.[8] For instance, among the Cibecue Apache Indians relationships to places are organized around place-names that anchor particular geographical points to particular ancestral histories that provide the Apache with opportunities to learn from their ancestors and cultivate wisdom. As Keith Basso observes in his moving ethnography, *Wisdom Sits in High Places,* for the Apache, "selfhood and placehood are complexly intertwined" (Basso 1996, 146). Maurice Leenhardt observed a similar relationship between persons, places, and ancestors among the Kanak people of New Caledonia. Among the Kanak, "The yam," he wrote, "is a human thing. Since it was born in the earth in which the ancestors are decomposed … the yam is the flesh of the ancestors" (Leenhardt 1979, 62).

In sum, ancestorhood is a mode of immortality that puts tremendous importance on the following: (1) the centrality of kinship, (2) the use of myth to legitimize the social and political order, (3) the efficacy of ritual, (4) the ability to both maintain *and* sever ties between the living and the dead, (5) the idea that some part of the person that is separable from the body lives on after death, (6) the notion that the past is a resource for the making of the future, (7) the imperative of fulfilling one's ritual obligations to others and thereby acknowledging the interdependent if not intersubjective nature of personhood, and (8) the idea that the making of persons and places go hand in hand. Ancestorhood has thus been a desirable means of constructing the afterlife because it reaffirms relationships and practices that are widely recognized as maintaining sociality and vitality among the living.

2.2 The Making of Avatars

How does the ubiquitous practice of making ancestors compare and contrast with the current attempt by transhumanists to achieve immortality in avatar form through the technology of "mind cloning," or what is also referred to as "mind uploading," "the transfer of consciousness," and "whole brain emulation"? As the official mind uploading website explains:

Mind uploading is a popular term for a process by which the mind, a collection of memories, personality, and attributes of a specific individual, is transferred from its original biological brain to an artificial computational substrate. Alternative terms for mind uploading have appeared in fiction and non-fiction, such as mind transfer, mind downloading, off-loading, side-loading, and several others. They all refer to the same general concept of 'transferring' the mind to a different substrate.[9]

Once the mind has been successfully duplicated or transferred to a computational substrate, transhumanists propose that people will be able to continue leading their lives by choosing from a number of avatar forms.

For instance, the pioneer of the 2045 Social Initiative Avatar project, Russian billionaire Dimtri Itskov has noted that in the future, people will be able to download their minds into a robotic body that will enable them "to work in dangerous environments, perform rescue operations, or travel in extreme situations."[10] Martine Rothblatt proposes that through "ectogenesis," a process which involves growing a human biological body outside of the womb, our mindclones will also have the option to enjoy a flesh-based avatar body replete with sensual delights (Rothblatt 2013, 320). Perhaps the most commonly envisioned immortality scenario is that human beings will be able to upload their minds to a computer platform and live as virtual or "holographic" avatars in cyberspace (Koene 2013; Moravec 1988; Prisco 2013). Despite variations in the ways transhumanists envision the making of avatars, I want to focus on eight

features that commonly animate these efforts. Exploring these features will highlight how the transhumanist mode of avatar immortality both resembles and diverges from ancestorhood.

First, it is worth noting that avatar immortality is no less mythically enshrined than the making of ancestors. As numerous observers of transhumanism have noted, and as was noted in Chapter 1, the role that science fiction has played in stimulating the transhumanist imagination cannot be overestimated (Farman, 2012a, 2012b; More 2013; O'Connell 2017; Valentine, 2012). Indeed, it could be argued that a shared devotion to science fiction not only serves as a powerful means of evoking sentiments and relations of affinity among members of the transhumanist community but it has also provided the "mythical charter" for a number of different transhumanist initiatives, including mind uploading.

Transhumanist Randal Koene, for instance, is founder and CEO of Carboncopies, an organization based in Silicon Valley that is spearheading efforts to achieve "substrate independent minds." He says that long before he earned his PhD in computational neuroscience from McGill University, Arthur Clarke's novel *The City and the Stars* (1956) played a formative role in shaping his interest in mind cloning. Set in the deep future, the novel describes the futuristic city of Diaspar being ruled by a superintelligent central computer, which creates bodies for the city's posthuman citizens, and stores their minds in its memory banks at the end of their lives for purposes of future reincarnation (O'Connell, 2017, 46). The transhumanist dream to achieve avatar immortality is therefore not created anew by each member of the movement. Rather, as is the case with the making of ancestors, this dream draws upon, and is legitimated by, a widely shared set of collective "myths" or fictions.

Second, if ancestors are typically found in societies where kinship provides the dominant structure for configuring social relations and identity, the attempt to create immortal avatars reflects the supreme importance transhumanists place on individualism, autonomy, and "self-direction." As Max More explains, "Self-direction means 'valuing

independent thinking, individual freedom, personal responsibility, self-direction, self-respect, and a parallel respect for others'" (More 2013, 5). Transhumanists largely believe that the question of who you are and what you become should be left up to the individual, rather than decided by social or biological determinants. This emphasis on individual autonomy underscores transhumanists' widespread attraction to libertarianism, their pursuit of "morphological freedom" and "human enhancement," and it also informs their approach to the afterlife. For instance, while the making of ancestors is typically regarded as a ritual *duty* bestowed upon surviving kin, for transhumanists, achieving immortality in avatar form is regarded as a personal choice. Indeed, some even suggest it is a "right" that must be actively pursued and defended by the individual who desires it. Kenneth Hayworth, the president and co-founder of the Brain Preservation Foundation expresses this sentiment when he remarks:

I, for one, feel as protective of my future uploaded self as I do my future physical self. I look forward to experiencing the world 100 years from now in a robotic body, and I will fight for my right to do so just as I would fight for my right to undergo any surgical procedure that could save my life. (Hayworth 2010, 15)

While countless generations of human beings have entrusted their immortality to the ritual duties of others, transhumanists operate with a deep skepticism that others can be counted upon to keep them alive. For transhumanists, immortality is one of many projects that requires a commitment to "responsibility, proactivity, and experimentation" (More 2013, 5).[11]

Indeed, the value transhumanists place on experimentation points to a third interesting difference between the making of ancestors and the making of avatars. Ancestorhood has long provided human beings with a means to express and negotiate their membership in a group and to ritually affirm the importance of tradition and continuity. In most societies where ancestors are deemed important, there is a profound

recognition that the past is a generative resource for the future and paying homage to ancestors provides one means of securing a future that is not only fruitful, but *familiar*. By contrast, the transhumanist attempt to achieve immortality in avatar form is animated by a powerful faith in "the principles of perpetual progress," "self-transformation," and "continual" development. Like so many other cultural forms arising in the era of flexible accumulation, transhumanism celebrates constant innovation; its watchword is "transcendence" not "reproduction." As More explains, transhumanists favor "reason over blind faith and questioning over dogma"; they advocate "experimenting, learning, challenging, and innovating rather than clinging to beliefs" (More 2013, 3).

In one of the most detailed studies to date of the contemporary Transhumanist Movement, literary critic Mark O'Connell notes that this ideology is part of the reason why so many transhumanists like Randall Koene gravitate to Silicon Valley. O'Connell proposes that the technoprogressivism, venture capitalism, and entrepreneurial optimism of Silicon Valley have made it an optimal place for transhumanists like Koene who are looking for investors to fund their research initiatives. Billionaire investor Peter Thiel, for example, has funded transhumanist initiatives for radical life extension headed by transhumanist and gerontologist Aubrey De Grey. In 2012 Google hired famed transhumanist Ray Kurzweil to be their Director of Engineering, specifically tasked with helping the company to build ever smarter machines. After moving to Silicon Valley, Koene himself received generous funding from Russian billionaire Dimitri Itskov to start Carboncopies.

This is to say, that a fourth feature of the transhumanist attempt to achieve immortality in avatar form is that it has become implicated in a larger techno-entrepreneurial culture that embraces such efforts not just because they might realize the long sought-after human wish for immortality, but also because they might realize the possibility of new sources of profit. For example, in discussing the future of mind cloning,

Rothblatt enthusiastically celebrates the role that the profit incentive and free-market capitalism will play in making this immortality initiative a reality. As Rothblatt explains, mindclones will consist of two key components: a mindfile and mindware. A mindfile, she notes, is a "digitised database of one's life' and it consists of all of a person's thoughts, feelings, ideas and experiences." The mindware is an operating system that processes the data in the mindfile, it is akin to one's digital personality (Rothblatt 2014, 10).[12] Based on the information in one's mindfile it can tell what their behavioral patterns are, and how they would likely respond to a particular situation. Anticipating how this might play out in the future, Rothblatt comments:

Imagine the potential for the company or group of entrepreneurs who can figure out how to capture and organize all that data that has been collected and posted about you (and by you) over the years and deliver it to you neatly organized to upload into your mindfile with mindware. Certainly this is a business opportunity that won't be overlooked by data-collection companies, existing or yet to be started … Whoever figures out how to capture, organize, and package information left scattered around cyberspace and resell it so individuals for use in their mindfiles will win. (Rothblatt 2014, 59–62)

While the profit incentive certainly explains some of the interest transhumanists have in making mind uploading a reality, for transhumanist, there is an equally, if not more important set of cosmological concerns at stake.[13] A number of researchers working on mind uploading-immortality initiatives are deeply skeptical about the future of the species. They are explicitly driven by annihilation anxiety and view mind cloning as part of a larger mission to rescue humanity from extinction. For instance, Koene proposes that "If SI is not achieved by the time another intelligence appears that is competitive with ours … it is quite possible that we may never have another chance to achieve it" (Koene 2013, 155). Similarly, computer scientist Keith Wiley argues

that developing the technologies of mind uploading is "nearly the most important goal of our civilization." Expressing his concerns, he writes:

This goal is met by maintaining consciousness in the form of conscious beings who escape extinction and maximize their conscious experiences. I am further concerned with insuring that humanity retains its share of that purpose by preserving our species against extinction. The alternatives, that the universe and existence could lose ultimate purpose at a needlessly early cosmic hour, or that humanity might fade into obscurity, are too horrible to bare and cannot be allowed to transpire. (Wiley 2015)[14]

Indeed, this motivation suggests a fifth feature that distinguishes the making of avatars from the making of ancestors. For transhumanists, it is not the kinship system that is reproduced and preserved as the ordering principle of the social and cosmological order, as is the case in ancestorhood, but rather it is *intelligence*. For transhumanists, ensuring our immortality in avatar form is regarded as one of the means of taking control of our future evolution and ensuring that the universe will be forever populated with intelligent life. As transhumanist Ben Goertzel, another leading researcher in the field of mind uploading and author of *A Cosmist Manifesto*, comments, "there's intrinsic value in helping higher intelligence come into existence" (2009). Moreover, as Robotics Professor Hans Moravec proposes, in order to sustain our mind-uploaded avatar lives and avoid the possibility of extinction, "part of us will have to be discarded and replaced by new parts to keep in step with changing conditions and competitors" (Moravec 1988, 121).

Moravec's warning thus raises the question: For transhumanists, what exactly is rendered immortal in avatar form? As is the case with ancestorhood, transhumanists also believe that there is a part of the human being that is separable from the body that can survive the biological death of the individual. However, instead of configuring this through religious beliefs regarding spirits or souls, transhumanists adhere to a "materialist" ontology and argue the essence of personhood

resides in the mind (Farman 2013). Moreover, because transhumanists conceptualize minds as "patterns of information rather than integrally tied to their material substrates (brains)," they are confident that minds can be copied and preserved on other platforms (Geraci 2010, 4). As Rothblatt explains, "Mindclones, just as people, are really sets of information patterns. The information patterns of great books and works of art are copied through the ages in new media after new media, and so will be the case with mindclones" (Rothblatt 2014, 248).[15]

The transhumanist attempt to achieve immortality in avatar form thus attests to a sixth feature commonly associated with this mode of immortality: the profound significance that science and technology play in configuring contemporary understandings of personhood. As Abou Farman has persuasively argued, the transhumanist conception of the "informatic self" has emerged from an influential cross-fertilization between the fields of neuroscience, computer sciences, and artificial intelligence (Farman 2014). Indeed, among some transhumanists, the notion that advanced software programs can be used to replicate the mind in another substrate has given way to conceptualizing the mind itself as software that can be easily transported to multiple devices (Kurzweil 2005; La Torra 2011; Rothblatt 2013). For instance, in reflecting upon his interview with Randal Koene, O'Connell observes, "it was the same essential metaphor that lay at the heart of Randal's emulation project: the mind as a piece of software, an application running on the platform of flesh" (O'Connell 2017, 49).

Seventh, this way of conceiving of the essence of personhood also suggests that the transhumanist path to avatar immortality would be much more expedient than the typically drawn-out, ritual process of making ancestors. With the proper premortem preparations in place (and Martine Rothblatt proposes people will be able to rely upon "personality profile and avatar training tools" to prepare for their postbiological existence), an individual could seamlessly transition into their avatar afterlife, and within mere moments resume, albeit in altered form and

location, their engagements with the living. As Rothblatt optimistically forecasts:

I'm confident that my potential to stay connected to my family and subsequent generations of relatives will be available and nearly limitless … thanks to strides in software and digital technology and the development of ever more sophisticated forms of artificial intelligence, you and I will be able to have an ongoing relationship with our families: exchange memories with them, talk about their hopes and dreams, and share in the delights of holidays, vacations, changing seasons, and everything else that goes with family life- both the good and the bad- long after our flesh and bones have turned to dust. (Rothblatt 2014, 9–10)

In contrast to ancestors, who frequently require ritual propitiation and can only be approached by certain classes of surviving kin, avatars it seems, would be readily accessible, and would easily resume their place among the living. It is difficult to say what kinds of consequences would arise from all of this. However, it would likely have a significant bearing upon the ways people experience loss and grief. As noted above, ancestorhood is premised not only upon the desire to maintain relations with the deceased but it also stems from an imperative that the deceased must accept their transition into another state in order to be recouped by the living. This ritual mandate simultaneously provides the bereaved with an opportunity to come to terms with their loss and readjust to a life without the deceased. Transhumanists, by contrast, explicitly rail against the idea of accepting death, arguing that it is a conservative ideology propagated by a timid and unimaginative "deathist" culture (Farman 2012a). Their immortality project is animated by a stubborn refusal to leave or let go.

While transhumanists conceive of an immortal life that is more or less continuous with that of the living, they also argue that avatar immortality, like ancestorhood, will imbue us with enhanced powers. If the power of ancestors is frequently wrought through symbolically merging with one's deceased kin or lineage, transhumanists propose

that the power of avatars will derive from *technologically* merging with computerized systems and information networks. As Moravec explains:

Whatever style of mind transfer you choose, as the process is completed many of your old limitations melt away. Your computer has a control labeled 'speed.' It has been set at 'slow,' to keep the simulations synchronized with the old brain, but now you change it to 'fast,' allowing you to communicate, react, and think a thousand times faster. The entire program can be copied into similar machines, resulting in two or more thinking, feeling, versions of you. You may choose to move your mind from one computer to another that is more technically advanced or better suited to a new environment. As a computer program, your mind can travel over information channels, for instance encoded as a laser message beamed between planets. (Moravec 1988, 113–144)

Moravec's description of being "beamed between planets" points to a final contrast between ancestralization and the production of avatars. Throughout human history the making of ancestors has provided a central means for the making of places. As Robert Pouge Harrison eloquently points out, ancestral burial grounds and shrines are key to our attempts to "humanize the lands where we build our present and imagine our future" (Harrison 2003, xi). Alternatively, in the transhumanist path to immortality it is not places that are reaffirmed and reconstituted through the making of avatars, but rather spaces. As Moravec's remarks indicate, for some transhumanists this is meant quite literally, as they envision an afterlife where we will be equipped to travel through outer space "as laser messages beamed between planets" or as Itskov proposes, in robotic avatar bodies that are capable of withstanding extreme conditions. For other transhumanists, the spaces we will occupy will be virtual ones. Future generations will upload their minds and live in cyberspace.[16] In both cases, the transhuamist vision of avatar immortality is predicated upon turning away from the importance of place, and even earth, as an existential horizon of the human condition.

In sum, the making of avatars points to a mode of immortality that affords tremendous importance to eight features: (1) the autonomy and self-direction of the individual, (2) the efficacy of science and technology, (3) the ideal of pursuing perpetual innovation and transcendence, (4) a temporal orientation which views the past more as an encumbrance than resource for making the future, (5) the notion that the essence of personhood resides in the mind and therefore can be readily transferred to another substrate, (6) the tendency to reject death as an inevitable boundary condition that requires separation, (7) the tendency to view our postmortem lives as coterminous with the living, and (8) the idea the spaces, rather than places, will provide the most salient holding environment for the continuation of our species. Avatars, therefore, provide transhumanists with a desirable means of constructing the afterlife because they reaffirm core values and visions of the Transhumanist Movement which themselves are reflective of more general features of life in late capitalist society.

2.3 Conclusion: The Very Human Quest for a Posthuman Immortality

As Lifton and Olson argued, modes of immortality are intimately shaped by the societal conditions from which they emerge. They reflect the values and organizing principles of society, as well actively influence the ways people conduct their lives. For much of human history, and in many parts of the world, ancestors have provided a desirable means of pursuing immortality precisely because their production has helped to reaffirm relationships and practices that have maintained sociality and vitality among the living. Living in a world of ancestors helps to reaffirm the importance of kinship, continuity and tradition, fulfilling obligations to others, and maintaining a relationship to pasts and places that secures one's identity over time.

The current effort by transhumanists to develop a new mode of immortality, and live forever in avatar form, thus marks an interesting departure and it warrants attention for two main reasons. First, it stands to teach us something about the ways social life is changing at the dawn of the twenty-first century. Admittedly, the transhumanist goal of mind cloning may be a long way off, if not ultimately a fanciful endeavor. However, the central features animating transhumanist immortality initiatives do, nonetheless, resonate with a wide swath of contemporary cultural forms and practices. The pervasive influence of science and technology, the value placed on constant innovation and change, the emphasis placed on individual autonomy and initiative, and the dematerialization of social lives and relations are commonly noted features of late capitalist societies. Moreover, as O'Connell (2017), Farman (2012b), and others observe, it should come as no surprise that much of the funding for transhumanist immortality initiatives comes from Silicon Valley. While ancestorhood has certainly given rise to local ritual economies throughout the world, transhumanist immortality initiatives are being actively invested in and promoted by tycoon, venture capitalists. As noted earlier, billionaire investor Peter Thiel has supported much of Aubrey De Grey's research on radical life extension. Elon Musk is a major investor in the new space program. Google's founder and CEO, Bill Maris, decided to invest heavily in The California Life Company which is devoted to "solving" the problem of death, after his own father passed away.[17] In other words, the transhumanist attempt to achieve immortality and ensure the existence of an intelligent presence in the universe into the deep future points to an interesting working alliance between capitalism and cosmology and once again challenges the idea that disenchantment is the inevitable outcome of our current socioeconomic system or a scientific worldview.

Second, whether transhumanist immortality initiatives are understood as part of a religious endeavor (Geraci 2010) or a secular one (Farman 2012a), their efforts to live forever in avatar form suggest

that certain human impulses may remain constant over time, and that anthropologists should pay as much attention to that which stays the same as to that which changes. Like countless groups that have come before them, transhumanists express a powerful need to overcome the frailty of the body and resist the finality of death. As O'Connell reflected, after meeting several of the key figures who are spearheading efforts to achieve immortality through the technology of mind uploading, "what really interested" him about the transhumanist idea of mind cloning was:

not how strange and far-fetched it seemed (though it tickled those boxes resolutely enough), but rather how fundamentally identifiable it was, how universal … Because there was something, in the end, paradoxically and definitively human in this desire for liberation from human form. (O'Connell 2017, 50)

Thus, I want to conclude this chapter by suggesting that despite their attempts to usher in a profoundly altered posthuman future, the transhumanist attempt to use science and technology to live forever in avatar form ultimately strikes me as a classically human endeavor. Although Rothblatt proposes that mind cloning will pave the way to "actual" immortality, it is clear that such initiatives provide yet another example of the way human beings use their symbolic capacity to overcome otherwise intractable problems. For to construe the essence of personhood as a "pattern of information" or data that can be easily transposed to another platform involves no less of a symbolic elaboration than to conceive of the essence of personhood as a soul, spirit, or even an ancestor who can be ritually ferried to a land of departed kin.

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Happily Ever After
Transhumanism and the Hedonistic Imperative

The transhumanist desire to live forever begs the question, for transhumanists, exactly what kind of life is worth living? In many ways, this question has been at the heart of cultural anthropology since its inception. Anthropologists have played an integral role in demonstrating that the ways human beings conceive of the good life, the values they hold dear, and the means by which different societies pursue these values are incredibly varied.

Ruth Benedict, the American anthropologist, provided a classic illustration of this in her seminal work, *Patterns of Culture*. Writing in the early part of the twentieth century, Benedict defined anthropology as "the study of human beings as creatures of society" (Benedict 1934, 1). She was fascinated by the way societies come to shape individuals and she argued that the kind of people we become is first and foremost determined by our cultural rather than biological inheritance. Benedict was equally fascinated with the "diversity of cultures" among the human species. In contemplating this diversity, Benedict encouraged her contemporaries to "imagine a great arc" from which each culture selects its defining values (Benedict 1934, 24). She argued that the values a culture chooses to prioritize, as well as those it chooses to downplay or ignore, play a key role in determining its identity.

Benedict was particularly interested in cultural diversity among the Native North American Indians. In describing the differences between the Plains Indians and the Zuñi Pueblo she studied, she borrowed a contrast the philosopher Friedrich Nietzsche had applied in his studies of Greek tragedy. The Plains Indians, Benedict observed, were Dionysian in spirit. They prioritized bravery, "self-reliance," "personal initiative," and a "thirst for power." Quoting Nietzsche, Benedict noted that the Plains Indians pursued these ends through experiences that involved "the annihilation of the ordinary bounds and limits of existence" (Benedict 1934, 78). Shamanistic spirit quests, conquests in war and hunting, and rituals that involved bodily suffering such as self-flagellation, or fleshhook hanging enabled them to break through the usual sensory routine, and as such, "were attributed the highest value" (Benedict 1934, 80). Benedict concluded that the Plains Indians' "most valued moments" provided an "escape from the boundaries imposed" upon them by the "five senses" (Benedict 1934, 79). Their institutions, she further observed, "fostered personality, almost in the Nietzschean sense of the superman. They saw life as a drama of the individual progressing upward through grades of men's societies, through acquisitions of supernatural power, through feasts and victories" (Benedict 1934, 98).

The Zuñi, by contrast, were Apollonian in nature. For the Zuñi, the good life was modeled around the virtues of "sobriety," "inoffensiveness," "moderation," cooperation, and a downplaying of any forms of individualism. "The ideal man in Zuñi," Benedict wrote, "is a person of dignity and affability who has never tried to lead, and who has never called forth comment from his neighbor" (Benedict 1934, 99). "In their strict Apollonian *ethos*," she continued, "the Pueblos distrust and reject those experiences which take the individual in any way out of bounds and forfeit his sobriety" (Benedict 1934, 89). Benedict further noted that the Zuñi's "Apollonian commitment to the mean" was "never clearer than in their handling of the emotions." "Whether it is anger or love or jealously or grief, moderation is the first virtue" (Benedict 1934, 106).

Since Benedict's time, countless other anthropologists have documented examples where conceptions of the good life vary dramatically.[1] And yet, despite the clear influence Benedict's work had on subsequent generations, like all prominent figures in the discipline, her work was subjected to significant critique. One of the most profound criticisms of Benedict's work was that she failed to *explain* the cultural differences she had observed among these different Native American societies.[2] What would make one group Dionysian and the other Apollonian? If anthropology was going to establish itself as social science, then it needed to go beyond a mere description of differences and provide an *explanation* for why such diversity exists.

One of the explanations proffered by subsequent researchers was that these differences in culture and personality were reflective of the different material conditions in which the Plains and Pueblo Indians lived (Barry, Child, and Bacon 1959; Miller 1955). The Plains Indians' primary mode of subsistence derived from hunting and warfare, where qualities such as bravery and self-initiative were adaptive to such ways of life. The Pueblo, by contrast, were agriculturalists. In order to successfully farm their land and harvest their food, fostering a capacity and desire for cooperation was essential.

Anthropological efforts to both chronicle and explain the varied ways different societies conceive of the good life provide the departure point for this chapter. In this chapter, I explore transhumanist attempts to live "happily ever after." Specifically, I focus on what is variously referred to as "the abolitionist project" or "paradise-engineering." The basic premise behind this initiative is that science and technology will ultimately make it possible to usher in the good life by eliminating suffering from the human, or rather posthuman condition. Indeed, transhumanists claim that it may be possible to not only eradicate suffering among posthumans in the future but to eliminate suffering from all forms of sentient life on the planet.

I want to emphasize that my goal in this chapter is not to interrogate the technical details of the abolitionist project or the validity of the

science behind it. Nor do I take up the question of whether it is actually feasible. Rather, my goal is to elucidate the central values and beliefs that animate this vision of the future and the kind of happiness it seeks to promote. As such, in the ensuing discussion I ask: What kinds of views and visions drive this particular conception of a life well lived? What values does "the hedonistic imperative" prioritize as well as downplay or ignore? What are the proposed means by which transhumanists seek to pursue a life of eternal happiness? Lastly, how might the values and efforts that drive transhumanists conceptions of the good life be reflective of the social context and material conditions in which transhumanism has taken root?

3.1 The Hedonistic Imperative

In 1995, three years before he cofounded the World Transhumanist Association with Nick Bostrom, the British utilitarian philosopher David Pearce published "The Hedonistic Imperative." The "manifesto," which consists of an introduction and five chapters, was published online as part of a larger web-based initiative Pearce had developed to promote research and writing on "Better Living Through Chemistry." Also known as BLTC, this web-based initiative continues to this day and remains Pearce's primary outlet for the dissemination of his work and ideas, as "printed books," he notes, just "tend to gather dust."[3] The main purpose of the manifesto is to explain, "defend," and argue for "the moral urgency" of "the abolitionist project": a project devoted to eradicating suffering "in all sentient life" and ushering in a future of "sublime and all-pervasive happiness" or what Pearce refers to as a "heaven" or "paradise on earth." As Pearce explained in the very first paragraph of the text:

The *Hedonistic Imperative* outlines how nanotechnology and genetic engineering will eliminate aversive experience from the living world. Over the next thousand years or so, the biological substrates of suffering will be eradicated completely. "Physical" and "mental" pain alike are destined

to disappear into evolutionary history. The biochemistry of everyday discontents will be genetically phased out too. Malaise will be replaced by the biochemistry of bliss. Matter and energy will be sculpted into life-loving super-beings animated by gradients of well-being. The states of mind of our descendants are likely to be incomprehensibly diverse by comparison with today. Yet all will share at least one common feature: a sublime and all-pervasive happiness.[4]

In the years since its publication, the Hedonistic Imperative has become a foundational text within the Transhumanist Movement and "a commitment to the well-being of all sentience" has become enshrined in the Transhumanist Declaration.[5] Pearce himself has remained an outspoken proponent of the abolitionist project and he continues to insist that "phasing out the biology of suffering is at the heart of becoming posthuman" and not just an "alternative to other transhumanist visions of the future."[6] As one of the cornerstones of the transhumanist agenda and worldview, therefore, the Hedonistic Imperative deserves attention. Drawing upon the text itself, as well as subsequent writings, interviews, and talks Pearce has given over the last two decades, I want to unpack the visions, values, and experiences that "the hedonistic imperative" both embraces and rejects.

3.1.1 *The Transhumanist Worldview*

A people's "worldview," as Clifford Geertz explained long ago, "is their picture of the way things, in sheer actuality are, their concept of nature, of self, of society. It contains their most comprehensive ideas of order" (Geertz 1957, 421–422). While some aspects of the transhumanist worldview have been discussed in previous chapters, a fuller discussion is necessary before we can understand how transhumanists conceptualize the good life and the means by which they seek to usher it in.

The first point to emphasize is that the transhumanist worldview is very much rooted in the Hobbesian notion that in "the state of nature"

life is "short, nasty, and brutish." "Nature," Pearce frequently comments, is "red in tooth and claw." For the seventeenth-century Enlightenment philosopher Thomas Hobbes, this brutish state was overcome through the establishment of society, or more precisely, through the State. In his famous treatise *Leviathan*, Hobbes argued that in the course of human evolution, individuals eventually came together to establish a social contract which required them to relinquish their right to engage in "the war of every man against every man" in exchange for the peace and protection offered by the State. By ceding their rights to this powerful and centralized authority, they lost some of their freedom but they gained a more secure, peaceful, and thus happier existence (Hobbes [1651] 1982). Thus, for Hobbes and other Enlightenment thinkers, Progress was primarily understood as a matter of social engineering, and over time, throughout the eighteenth and nineteenth centuries, proponents of the Enlightenment would argue that Progress could be further enhanced by replacing the all-powerful state with increasingly democratic republics that were guided by the modern principles of science, reason, and democracy, rather than adherence to absolute rule, tradition, or faith.

Although transhumanist ideas about nature share affinities with Enlightenment thinkers such as Hobbes and although transhumanists are equally committed to promoting science and rationality, their ideas about Progress and how to secure a happier future for humankind diverge considerably.[7] In part, this is due to a second feature of the transhumanist worldview: its close ties with the discipline of evolutionary biology which emerged with particular verve in the mid-twentieth century. The basic premise evolutionary biologists put forth is that the evolution of our species is driven by "selfish genes" struggling to replicate themselves over time and ensure their "immortality." Genes, as evolutionary biologist Richard Dawkins explains, are "bits of coded information" that play a pivotal role in determining what attributes human beings will express. Genes that prove adaptive to a particular context will have a greater

chance of surviving and being passed on.[8] For instance, in explaining the persistence of "competitive male dominance behavior," Pearce, who was deeply impressed when he read Dawkin's *The Selfish Gene* as a teenager, invokes this theory explicitly. "Crudely speaking, evolution 'designed' human male primates to be hunter/warriors. Adult male humans are still endowed with the hunter-warrior biology – and primitive psychology – of our hominin ancestors" (Pearce 2012, 4).

This points to a third feature of the transhumanist worldview. In this view of the world, it is not human beings who are the real agents of history but "those bits of information" called genes.[9] Indeed, just as Marx developed the theory of historical materialism to "lay bare the economic law of motion" animating human societies (Marx [1867] 1978, 297) and just as Durkheim posited that God was a symbolic or a "collective representation" through which human beings worship the power that society has over them (Durkheim 1912), transhumanists like Pearce also operate with a hermeneutic of suspicion. They too are engaged in a project of demystification, but unlike Marx and Durkheim, they use the theories derived from evolutionary biology and sociobiology rather than those of political economy or sociology to dig below the surface and lay bare "the real" determinants of human life. As Pearce notes:

What might seem to be eternal moral verities are ritually unmasked by their debunkers as mere instruments of the genes. People's devoutly-held personal convictions, we learn, are just another means by which competing alliances of information-bearing self-replicators – genes – manipulate their throwaway vehicles at one remove to promote their inclusive fitness. Admittedly, genetic predisposition does not equate with genetic determinism. Sociobiologists, evolutionary ethicists and their ilk aren't claiming that genes directly code, rather than bias, the development of each idiosyncratic set of cultural values. Yet independently-arising cross-cultural universals e.g. religious and secular incest taboos, can nonetheless best distally be explained by positing selective pressures which act over many generations to shape our moral fetishes and phobias.[10]

Thus, if Benedict argued that it was our cultural inheritance that plays the primary role in determining what kind of humans we become, in Pearce's elaboration of the transhumanist worldview, this matter is largely decided by biology. Working with assumptions of sociobiology, therefore, transhumanists are hard pressed to explain why the incest taboo, though indeed universal, varies so dramatically across the species. In some societies, for instance, it is considered incestuous to procreate with anyone who is a member of your clan even though they may be a biologically distant "relative." Elsewhere, among the matrilineal Na society of prerevolutionary China for instance, it was deemed acceptable for a daughter to bear the offspring of her biological father, though mere discussion of sexual matters with a male member of her matrilineal kin was absolutely prohibited (Geertz 2008).

The view that human existence and behavior is significantly shaped by our genetic inheritance has had profound implications for a fourth and perhaps one of the most important features of the transhumanist worldview: the way transhumanists periodize human evolution. For transhumanists, the human condition can be parsed into two periods: the Darwinian period of evolution based on "natural" selection and the post-Darwinian period which will be driven by "designer evolution" (Chu 2014; Young 2006).[11] Until now, transhumanists argue, human beings have been at the mercy of "the biological dark ages" or "the horrors" and "nightmarish legacy of Darwinian life."[12] As Pearce explains, "Nature didn't design Darwinian life to be happy":

Blind selective pressures have acted on living organisms over hundreds of millions of years. Darwinian evolution has powerfully favored the growth of ever more diverse, excruciating, but also more adaptive varieties of psychophysical pain. Its sheer nastiness effectively spurs and punishes the living vehicles of genetic replicators. Sadness, anxiety and discontent are frequently good for our genes; they're just psychologically bad for us. In absolute, terms, global suffering is probably still increasing as the population explosion continues. Human ingenuity has struggled, often in vain, to

rationalize and somehow derive value from the most frightful anguish. But over the eons, the very anguish which intermittently corrodes the well-being of the individual organism has differentially promoted the inclusive fitness of its DNA. Hence it has tended to get inexorably worse.[13]

As this passage makes readily apparent, in the transhumanist worldview, human beings, or as Pearce refers to them, "living vehicles of genetic replicators," are in desperate need of an upgrade. We have yet to break free from our "biological chains" or transcend our "primitive" evolutionary past. We continue to be dominated by a genetic inheritance that not only makes us wicked and aggressive creatures but also creatures who are plagued by profound unhappiness. As Pearce commented in a 2007 talk he delivered at the International Happiness Conference, "If there weren't something fundamentally wrong – or at least fundamentally inadequate – with our existing natural state of consciousness bequeathed by evolution, then we wouldn't be so keen to change it" (Pearce 2007, 6).[14]

Moreover, in this worldview, suffering, like happiness, is primarily conceived of as a biological condition – a matter of brain chemistry, "hedonic set points," dopamine levels, and the like. If evolutionary biology has provided transhumanists like Pearce with a means of understanding the world as a battle among selfish genes, recent developments in computational neuroscience have led them to conceive of emotional states as reducible to chemical compounds and processes. For instance, in a talk entitled "Utopian Neuroscience," which he delivered to fellow transhumanists in Second Life, Pearce asked:

Can happiness sensibly be treated as a biological category at all? Is emotional well-being really a natural phenomenon that can be objectively measured and quantified? Do happiness and other states of mind really have well defined neurological substrates that can be selectively amplified indefinitely?

Pearce's answer is "yes." "Identifying the molecular correlates of our emotional states in terms of receptor-density and neurotransmitter

occupancy ratios, alternate splice variants, phosphorylated proteins, gene expression profiles etc, is a daunting challenge for computational neuroscience" (Pearce 2008, 6). However, in Pearce's view, it is not an insurmountable one. As he further noted:

> As brain-scanning technology becomes ever more sophisticated and finer-grained, we'll be able to identify the multiple neural correlates of well-being and selectively "overexpress" them in ways that transcend old-fashioned environmental tinkering. (Pearce 2008, 7)

The implication of all of this is that if our misery is indeed a product of our evolutionary biology, then the way to transcend our current unhappy state is by changing our biology. This is precisely what the transhumanists propose we do. Through the use of means such as radical pharmacology, genetic engineering, and nanotechnology, they argue that we can rewrite our genetic code and rid ourselves of the "nastier" elements from our Darwinian past. For transhumanists, therefore, the path to progress will not come through mere social changes, or even as Marx proposed, through a *radical* reorganization of our economic and political systems. Nor will it come from traditional philosophical attempts to "know thyself" and thereby become a more enlightened citizenry. Progress, according to Pearce, will come from using science and technology to address "the real substrates of suffering," our biology.[15] As Pearce elaborates:

> At present, life for billions of genetically "normal" people is often very grim indeed. No amount of piecemeal political and economic reform, nor even radical social engineering, can overcome this biological reality. … We convince ourselves that all manner of things would potentially make us happy. All these peripheral routes to personal fulfilment are not merely vastly circuitous and inefficient. In the main, they just don't, and can't, durably work. At best, they can serve as palliatives of the human predicament. If the mind/brain's emotional thermostat, as it were, is not genetically and/or pharmacologically reset, then even the greatest triumphs and successes turn to ashes.[16]

Transhumanists like Pearce argue that once we are able to reengineer our biology and reset our "hedonic treadmill," we will be able to enjoy the innumerable, and as of yet never experienced, pleasures of a post-Darwinian, posthuman existence. We will enter a new phase of evolutionary history and be able to use "biotechnology to select and fine-tune a post-Darwinian personality."[17] Moreover, Pearce maintains that without taking these steps, all of the other initiatives transhumanists so "ardently desire" will fall short of realizing their promise. As he emphasized in his 2008 address to transhumanists in Second Life:

It's worth stressing that none of the things that transhumanists so ardently desire – unlimited lifespan, superintelligence, morphological freedom, novel sensory modalities and modes of consciousness, molecular nanotechnology, etc – will leave us significantly happier in the long-run unless we redesign and recalibrate our hedonic treadmill. (Pearce 2008, 4)

3.2 Post-Darwinian Culture and Personality

What then, will this post-Darwinian culture and personality look like? What types of experiences and values will it encourage as well as dismiss? Now that we have some sense for the assumptions that guide transhumanist understandings of the world, we can look more closely at transhumanist conceptions of the posthuman good life.

3.2.1 Replacing Suffering with Gradients of Bliss

In many human societies, suffering and pursuing the good life are regarded as complementary experiences rather than antithetical ones. For example, in Botswana, male Christian charismatics willingly take on the suffering of their patients in order to heal them of their afflictions. These "holy hustlers," Richard Werbner notes, "say that they have to feel others' pain for them, put themselves in the others' position … The prophets' expressed intent is to make others' pain more bearable by

being shared" (Werbner 2011, 21). Among members of this Apostolic Church, therefore, experiences of suffering are valued for their capacity to deepen social bonds among members of the congregation and for their potential to bring renown to young male healers who courageously and compassionately bear the afflictions of their fellows.

By contrast, in the modern West, personal suffering is often valued as a sign of an authentic self (Davies 2011; Illouz 2008) or an indicator of artistic genius (Feldman 1962; Lindholm 2008).[18] In China, it has come to be viewed as evidence of a true political commitment (Sum 2017). For the Plains Indians, as Benedict noted, experiences of physical suffering were valued because they helped one transcend ordinary states of consciousness and brought one closer to accessing a realm of supernatural powers.

In South Asian, Middle Eastern, and North African societies, anthropologists have long observed that the capacity to endure suffering provides women with a crucial means of asserting their moral worth (Abu-Lughod 1986; Hewamanne 2008; Huberman 2012; Lamb 2000; Lynch 2007). Among Pashtun women who live along the border of Pakistan and Afghanistan, for example, the ability to gracefully endure "*gham* and *taklif*" (misfortune and hardship) is central to establishing one's feminine honor (Grima 1994, 86). Suffering, as Benedicte Grima argues, is both an "aesthetic and ethic" of female life and existence (Grima 1986).

Working among the Yap of Micronesia, anthropologist Jason Throop has explored how pain and experiences of suffering are "transformed into locally valued forms of moral experience" (Throop 2010, 2). In Yap, Throop observes, it is happiness rather than suffering that is regarded with tremendous ambivalence. For while suffering is believed to help "orient individuals, families, and communities to future horizons of possibility and past legacies of effortful sacrifice" (Throop 2018, 45), happiness is understood as taking attention "away" from others (Throop 2018, 53).[19] Yet another example comes from the anthropologist Michael

Jackson. Drawing inspiration from years of fieldwork in Sierra Leone, Jackson argues that suffering and the good life are inextricably and *existentially* linked. He writes, "both the problem of well-being and the question as to what makes life worthwhile are grounded in the mystery of existential discontent – the question as to why human beings, regardless of their external circumstances, are haunted by a sense of insufficiency and loss" (Jackson 2011, xi).

What all of these examples reveal is that for much of human history, suffering has been regarded as a deeply *meaningful* and *valuable* experience, even if it is an unpleasant one. To do away with suffering completely would be to take away from the richness of social, moral, political, and religious life. Why then are transhumanists like Pearce so eager to abolish suffering from human/posthuman existence?

Part of the answer can be gleaned from the earlier discussion of the transhumanist worldview. For transhumanists, suffering is not so much a meaningful experience as it is, or rather *was*, a *functional* or an adaptive one. In their evolutionary schema, suffering has existed for the sole purpose of alerting human beings to potentially dangerous situations that might make it more difficult for them to successfully pass on their genes and DNA. As Pearce states at the very outset of the Hedonistic Imperative:

Why does suffering exist? The metabolic pathways of pain and malaise evolved only because they served the inclusive fitness of our genes in the ancestral environment. Their ugliness can be replaced by a new motivational system based entirely on new gradients of well-being.[20]

Moreover, for Pearce, it is crucial that our hedonic treadmill be recalibrated around "gradients of well-being" rather than set at a uniform level. As he explained in a 2007 talk:

One of the advantages of genetically recalibrating the hedonic treadmill rather than abolishing it altogether, at least for the foreseeable future, is that the functional analogues of pain, anxiety, guilt and even depression can be

preserved without their nasty raw feels as we understand them today. We can retain the functional analogues of discontent – arguably the motor of progress – and retain the discernment and critical insight lacking in the euphorically manic. (Pearce 2007, 10)

Thus, while transhumanists want our posthuman descendants to be happy, they do not want this happiness to come at the expense of two of the human attributes they value most, "discernment" and "critical insight" – or what we might otherwise term, reason and rationality. Engineering the organism to experience gradients of bliss, Pearce argues, will help preserve the functional analogues of aversive experience, without subjecting us to the "nasty," raw feelings that have accompanied them in the past. Pearce's view thus stands in sharp contrast to many of the examples discussed above. For in other societies, people believe that critical insights into the world can be gained by taking the perspective of suffering others and by *tolerating* and *learning from* bad feelings. In other words, in other societies, insight and discernment are regarded as social or intersubjective achievements, not just the by-products of brain chemistry or biology.

3.2.2 *Biochemical Efficiency*

If transhumanists seek to abolish "the mystery of existential discontent," which Michael Jackson proposes is so central to the human condition, and replace it with the science of happiness, what will this entail for the posthuman future? Although transhumanists want to rid the world of suffering and although they seem to devalue experiences that would involve bearing the pain of others, they are certainly not advocating for a world devoid of empathy. Nor a world devoid of social ties. Rather, transhumanists like Pearce argue that technology will not only enhance our capacity for happiness, it will also enhance our capacities for empathy and sociality, and equally important, it will do so by means that are much more *efficient* than the slow, inexact, learning process that traditional

forms of socialization entail. Efficiency is a key value of the posthuman good life.

For instance, when it comes to happiness, Pearce repeatedly proposes that the best route to happiness is the most direct one. As he laments, "We convince ourselves that all manner of things would potentially make us happy. All these peripheral routes to personal fulfilment," he concludes, are "vastly circuitous and inefficient."[21] Pursuing happiness, for Pearce, is "a straightforward issue of means-ends rationality":

Whether or not we should genetically reprogram the hedonic treadmill reduces to a straightforward issue of means-ends rationality. What is the most effective, and more pertinently the only, way to achieve what constitutionally we're already seeking in a multitude of guises? How can these emotionally ideal sorts of meso-limbic mind/brain states we're striving for be achieved and, more importantly, sustained?[22]

Indeed, when we look closely at what Pearce is proposing, we find that the transhumanist conception of the good life is underscored by the idea that human beings are *not* predominantly defined by their life experiences. For Pearce, life is not about the journey or the means through which we enrich ourselves, because for Pearce, enrichment itself is a matter of one's biological constitution rather than lived history. This can be further gleaned in his approach to mental health:

Rather than spending months in exorbitantly expensive talk therapy with ill-defined goals and benefits, people will be able to take professional specialists' advice on customizing and fine-tuning the psyche. Dysfunctional traits of personality can then be psychochemically retailored.[23]

Pearce thus suggests that the posthuman good life will revolve around the maxim, "know thy chemicals" rather than "know thyself." Rehashing the experiences of one's life, trying to achieve an understanding of how and why one has come to be the person they are, and wrestling with the difficult and often times disappointing aspects of one's personality can

all be sidestepped with a more efficient use of *customized* drugs tailored to fine-tune the psyche.

3.2.3 *Enhanced Sociality*

In addition to enhancing happiness and health, Pearce proposes that biochemical engineering will also enable us to more efficiently achieve new levels of social cohesion. Social cohesion, or "social solidarity" as the French Sociologist Emile Durkheim famously referred to it, is of course a longstanding interest among cultural anthropologists. Anthropologists pay close attention to the various ways people establish and secure relationships with each other in different parts of the world. In precapitalist societies, as Durkheim's student and nephew Marcel Mauss famously observed, the central mechanism for achieving such relationships was through the exchange of gifts ([1925] 1967). In other societies, the kinship system imposes the primary bonds of obligation that define and regulate relationships between groups. Durkheim argued that religion is one of the institutions par excellence that contributes to a greater sense of social solidarity and he was particularly interested how experiences of "collective effervescence" are generated through ritual means (Durkheim 1912).

Although Pearce does not discount these means completely, he proposes that on their own, they are inadequate. If sociality is going to be enhanced in the future, it will require more "biological" means. He writes:

Mirror neurons for instance, can be multiplied and functionally amplified as well as hedonic tone, thereby enhancing our propensity to cooperative behavior. Likewise, long-acting designer "hug-drugs", safe and sustainable analogues of MDMA and its congeners, are feasible too – as are their genetic equivalents. Social cohesion may thereby be biologically enhanced. (Pearce 2008, 21)

Or as he noted in a 2007 talk, "mastery of the biology of emotion means that we'll be able, for instance, to enlarge our capacity for empathy,

functionally amplifying mirror neurons and engineering a sustained increase in oxytocin release to promote trust and sociability" (Pearce 2007, 11). Indeed, Pearce proposes that the current lack of social cohesion among members of our species is a direct manifestation of our "selfish genes":

Our deficiencies in love are only another grim manifestation of selfish (in the technical sense) DNA. If humans had collectively shared the greater degree of genetic relatedness common to many of the social insects (haplodiploidy), then we might already have been "naturally" able to love each other with greater enthusiasm. Sociobiology, and its offspring evolutionary psychology, explain our relative coldness of heart.[24]

In Pearce's account of "anomie" or "alienation," the elements that anthropologists typically focus on, such as poverty, class inequality, institutionalized racism, sexism, bigotry, and nationalism, are again downplayed in favor of an explanation that casts biology as the primary cause and cure of social tensions and fissions.

3.2.4 *Biology and Its Discontents: From Repression and Sublimation to Eradication*

Sigmund Freud, who founded the discipline of psychoanalysis in the early twentieth century, was, like Pearce, also very interested in the perpetual unhappiness that plagues the human species and the causes and consequences of this suffering. In 1930, in a short but widely read book entitled *Civilization and Its Discontents*, Freud wrote:

Our enquiry concerning happiness has not so far taught us much that is not already common knowledge. And even if we proceed from it to the problem of why it is so hard for men to be happy, there seems no greater prospect of learning anything new. We have already given the answer by pointing to the three sources from which our suffering comes: the superior power of nature, the feebleness of our own bodies and the inadequacy of the regulations which adjust the mutual relationships of human beings in the family, the state and society. (Freud [1930] 1961, 37)

Like Pearce, Freud also believed that human beings, as designed by nature, are not just "feeble" and inadequate but also filled with aggressive instincts that need to be repressed in order for society to be possible. If in Hobbes's theory of the social contract people surrendered their freedom in exchange for peace and protection from the State, in Freud's view, they repress their animal instincts in exchange for acceptance from society. The compromise, he contended, is not a happy one:

When we start considering this possibility, we come upon a contention which is so astonishing that we must dwell upon it. This contention holds that what we call our civilization is largely responsible for our misery, and that we should be much happier if we gave it up and returned to primitive conditions. (Freud [1930] 1961, 38)

While Freud argued that repression for the sake of social respectability leaves human beings in a perpetual state of neurotic dissatisfaction and "frustration," there was at least one silver lining in his otherwise gloomy version of the social–psychological contract: "sublimation." In what reads like a precursor to Pearce's statement that "discontent" has "arguably been the motor of progress" (Pearce 2007, 10), Freud argued, "Sublimation of instinct is an especially conspicuous feature of cultural development; it is what makes it possible for higher psychical activities, scientific, artistic or ideological, to play such an important part in civilized life" (Freud [1930] 1961, 51). Thus, even though Freud agreed with many of the ideas that transhumanists currently espouse, unlike Pearce, Freud was able to find some redeemable value in suffering. Our baser passions were not to be completely eradicated but rather repressed and sublimated in the service of developing society.

The transhumanist vision of the good life by contrast demands that we *eradicate* our "baser passions" to achieve a more virtuous society and existence. Unlike Freud, Pearce proposes that the "horrors of the primitive" past would not make us any happier. Nor can the "darker" elements of our human nature be overcome by *teaching* the virtues of

charity, kindness, and decency. The baser passions must be technologically eliminated in order to bring about progress, for it is not civilization that causes our discontent, as Freud proposed, but our biology. As Pearce explains in his talk Utopian Neuroscience:

Potentially, we can use a convergence of biotech, nanorobotics and information technology to gain control over our emotions and become better (post-)human beings, to cultivate the virtues, strength of character, decency, to become kinder, friendlier, more compassionate: to become the type of (post)human beings that we might aspire to be, but aren't, and biologically couldn't be, with the neural machinery of unenriched minds. Given our Darwinian biology, too many forms of admirable behavior simply aren't rewarding enough for us to practice them consistently…. (Pearce 2008, 17)

Freud, perhaps, would be both intrigued and disheartened by this view. For Freud clearly sympathized with the suffering of his fellow human beings and he devoted his life to developing a science that might help people exchange the punitive and pathological effects of repression for everyday but tolerable neurotic misery. However, Freud was first and foremost a theorist of the mind, not the brain. He pioneered the use of "talk therapy," which in Pearce's view promotes "ill-defined goals and benefits." It is thus unlikely that Freud would find a place for himself or his "science" in the posthuman future Pearce envisions.

3.2.5 Biochemical Creativity and Beauty "On Demand"

According to Pearce, reengineering our biochemical substrates will also significantly enhance the creative, aesthetic, and even spiritual lives of our posthuman descendants. As Pearce explains:

The traditional way to produce, say, aesthetic beauty is to create a painting or a sculpture that stirs a rewarding aesthetic response in one's audience. Hence the decorative arts. The advanced way to create awe-inspiring beauty is to use brain-scanning technology, identify the neural signature of aesthetic

experience, purify its biomolecular essence and then amplify its substrates. Transcendentally beautiful experiences *on-demand* can then be selectively *triggered* far more potently than today – perhaps managed from a user friendly interface as intuitive as your iPad, perhaps thought-activated, or perhaps stimulus driven as now. Hence the claim that posthumans may have the innate capacity for aesthetic experiences that are *billions* of times more beautiful than anything accessible at present – possibly more so after the imbecilic constraints of the human birth-canal are overcome: artificial wombs are no more "unnatural" than artificial clothes. (Pearce 2008, 8 italics mine)

There are a number of points worth emphasizing here. First, as this passage makes clear, and as Pearce repeatedly emphasizes in his other talks and writings, this vision of the good life is very much driven by a quantitative calculus. In just about every domain, for transhumanists, more is better: lives will be eternally longer, posthumans will be unfathomably smarter, bodies will be unimaginably stronger, and experiences will be "billions of times" more beautiful. In contrast to the Zuñi Indians Benedict studied, for transhumanists, maximization, rather than moderation, is the goal.

Given that utilitarianism places a premium on maximization and Pearce has long been swimming in the waters of utilitarian philosophy, this is not surprising. Indeed, as Darrin McMahon has argued in his fascinating account of the history of happiness in Western Society, utilitarian philosophers such as Jeremy Bentham played a pivotal role in "secularizing" happiness. Whereas happiness was long understood as a gift from the Gods or something only achievable in the afterlife of heaven, Enlightenment thinkers brought happiness to earth. They came to view happiness as "the right of every man" and largely understood it as "the positive balance of pleasure over pain" (McMahon 2006, 218). As Pearce's language makes clear, this idea continues to animate transhumanist thinking about happiness.

Second, this vision of the good life begs the question, exactly how do transhumanists conceive of the category of experience? Most definitions

of experience imply active *participation* in an event, encounter, or process. But in this view of the world, experiences are more akin to consumables that can be procured "on demand" or "customized" to one's liking. They will be "triggered" rather than created, thus suggesting that perhaps some of the agency Americans desire if not demand in current life will not be such a priority for posthumans of the future. For instance, in reflecting on posthuman humor, Pearce notes, "The traditional route to comic genius has been to crack funnier jokes or write a comic masterpiece. The sophisticated posthuman route to cultivating a fantastic sense of humor is not (just) to be wittier; it's to amplify and enrich the neural substrates of amusement" (Pearce 2008, 10).

In this vision of the good life therefore, it is the world inside the brain that matters most. Individual autonomy is ardently promoted as actual encounters with others or engaging in varied means and practices to generate experiences that are pleasant, funny, beautiful or even spiritual become less important than amplifying neural pathways and connections. As Pearce proclaimed in his talk on Utopian Neuroscience:

The traditional route to spiritual experience is via meditational discipline and prayer. The futuristic route – *if* one thinks spirituality is a valuable dimension of experience – is to identify the neural substrates of spiritual experience, perhaps even the neural substrates of divine revelation and the experience of God, and then amplify them…. (Pearce 2008, 9)

This is also to say that the transhumanist vision of the good life is predicated upon the idea that individuals should be able to tailor the world, or at least their perception of it, to their individual tastes and likings. They will have the freedom to choose what kinds of experiences they want to have or what objects will bring them pleasure or arouse their desires. The conformity so valued by the Zuñi is to the transhumanists an affront to one of their most cherished values: individual freedom. Paradoxically, therefore, transhumanists advocate using "empirical,"

"objective" science to usher in a world where catering to subjective preferences may increasingly rule the day.

3.2.6 Choices, Euphoria, and Productivity

The endless choices and variety promised in the enhanced posthuman future will not only pertain to aesthetic and spiritual experiences, as discussed above, but also to the various lifestyles, forms of health, and the varieties of ecstasy posthumans will have access to. Indeed, in a 2014 interview, Pearce proposed that in the future, hedonic recalibration will help ensure people are able to maintain their lifestyle "preferences" and "values." As he explained:

One of the beauties of hedonic recalibration is that an exalted hedonic set-point doesn't entail giving up cherished values and preferences in favor of anyone else's – or conforming to someone else's conceptions of the ideal society. Nor is use of hedonic enrichment technology a plea for getting indiscriminately "blissed out" or "drugged up." Rather hedonic recalibration guarantees that whatever your conception of the good life, the reality will be indescribably better. (Pearce 2014, 5)

Thus, in the posthuman future, Pearce envisions there will still be room for "the great arch" of human diversity that so fascinated Ruth Benedict. However, the means by which this diversity will be preserved will vary significantly. In Benedict's world, the most important means of preserving and appreciating such diversity was by educating people. She wrote *Patterns of Culture* as an appeal to the general public to teach them the importance of tolerance and cultural relativism. For Pearce, the means are, yet again, technological. He proposes that recalibrating hedonic set points will become the most efficient means of preserving cultural differences in the posthuman future.

Pearce advocates similar means when addressing the issue of posthuman mental health. Railing against "the pathologically low" standards of contemporary mental health, Pearce predicts, "Our

super-well descendants, by contrast, will enjoy a glorious spectrum of new options for mental super-health."[25] In the posthuman future, ecstasy will be a normative state rather than a rare experience attained only after arduous hours of spiritual discipline and practice, or frenzied sex. There will be a veritable smorgasbord of delights for these "newly enlightened ecstatics" to enjoy.

While these states of euphoria and ecstasy will provide posthumans with transcendent experiences of joy, excitement, serenity, and even spiritual peace, they will *not*, importantly, distract them from this-worldly obligations and endeavors. For although transhumanists like Pearce paint a rather Dionysian portrait of "the Post-Darwinian personality," they do so with a concern for productivity still very much intact. In fact, Pearce proposes that biochemical engineering will make it possible for posthumans to tend to their worldly affairs and interests with ever greater conviction, willpower, and motivation. Productivity, which is another key value of the transhumanist good life, will be unparalleled in the posthuman world. As Pearce reassures his readers:

In these early days, subjects may find the idea of fulfilling older conceptions of the good life a reassuring prospect. Prior to their own personal transition to heavenly superhealth, any paradoxical trepidation coming from candidates for hedonic enrichment should be laid to rest by the following reflection. Nothing we have previously enjoyed in the old Darwinian era will afterwards be unavailable or any less satisfying than before. In fact, we may be motivated to pursue old goals with far greater gusto once weakness of will becomes just an evolutionary curiosity. For weak will-power caused by dopamine hypo-function is one of those neurological deficiencies which efforts alone can't overcome. Happily, in Paradise the frailest spirit can move mountains.[26]

In this vision of the good life, dopamine-induced willpower will enable posthuman beings to draw ever closer to what Benedict described among the Plains Indians as "the Nietzschean sense of the superman."

3.2.7 *Endless Expansion, Continual Dynamism, and Total Control*

Indeed, if the Plains Indians envisioned life "as a drama of the individual progressing upward through grades of men's societies, through acquisitions of supernatural power, through feasts and victories" (Benedict 1934, 98), the transhumanists envision posthuman life as drama of the individual progressing outward through the universe, using science and technology and newly engineered post-Darwinian willpower to acquire ever more influence *over* the cosmos. For instance, Pearce optimistically forecasts that posthuman society will be animated by a degree of dynamism, expansion, and control that far surpasses what modern capitalist society has witnessed. As he explains:

Looking ahead to an era when intelligent life has conquered raw suffering, and to an era when we can modulate our core emotions at will, enhanced hedonic gradients and/or their functional analogues may lead our post-human descendants, and/or intelligent robots/cyborgs, to radiate and colonize every niche of the accessible multiverse within our light cone/ galactic supercluster and intelligently re-engineer it.[27]

In this vision of the good life, power is not so much gained by accessing new realms of experience or getting outside of one's ordinary states of consciousness, as it was for the Plains Indians. Rather it is accrued by dominating them. According to Pearce, colonization, remaking the "multiverse" in the posthuman image, acquiring total control over *both* the exterior and internal world, is the means by which posthumans will "advance" and achieve eternal and "timeless" bliss.

3.3 *The Hedonistic Imperative*, the Technological Imagination, and the Regime of Flexible Accumulation

Unlike Benedict's analysis of the Plains and Pueblo Indians, what I have been exploring in this chapter is not an actual post-Darwinian "culture and personality" but rather a vision and hope of what it might look like in

the future. Drawing upon "The Hedonistic Imperative" and other works and writings by David Pearce, I have focused on one aspect, albeit a central one, of the transhumanist, "technological imagination." As Anne Balsamo and others have argued, the concept of technological imagination enables us to grasp the dialectical interplay between culture and technology (Balsamo 2011; De Lauretis et al. 1980) It suggests that "technology shapes the very content and form of the imagination in our time" (De Lauretis et al. 1980, vii) but it also reminds us that "the exercise of the technological imagination reproduces cultural understandings at every turn" (Balsamo 2011, 7). This, Balsamo proposes, can be vividly gleaned in works of science fiction. Science fiction is as much about giving voice to "anxieties and preoccupations of the present of the author" as it is about speculating on things to come. Yet, science fiction, Balsamo argues, also shows "how the future is produced first in our imaginations, well before it is produced in the laboratories of scientists and engineers" (Balsamo 2011, 52).

While "The Hedonistic Imperative" is intended as a manifesto rather than a work of science fiction, Balsamo's observations are instructive here on two counts. First, Balsamo reminds us that imagination is indeed a powerful force in the making of social lives and futures. Even if some of the visions transhumanists project may currently seem far-fetched, their technological imagination has the potential to play an influential role in shaping the world we will inherit. Second, Balsamo's comments also encourage us to consider how the future transhumanists envision is reflective of conditions in the present. In other words, Balsamo's insights return us to a question posed at the outset of this chapter: How do we *explain* the visions and values that animate transhumanist conceptions of the post-Darwinian good life? Why do the transhumanists desire a future where efficiency, productivity, individual autonomy, boundless choice, constant innovation, endless expansion into the universe, and the maximization of eternal bliss prevail?

I propose that the answer has much to do with the material conditions in which transhumanism has developed and taken root. While the

transhumanist worldview has been significantly shaped through its engagements with the biological and informatics sciences, the values transhumanists hold dear are also indicative of the organization and nature of late capitalism or what Marxist geographer David Harvey refers to as "the regime of flexible accumulation." Operating from the basic premise that the organization of economic life has a profound impact on the social and cultural formations of the time, Harvey has traced the way changes in the nature of capitalist production have given rise to a neoliberal economy and society that places a premium on efficiency, productivity, constant innovation, customization, the restless search for new markets, and the idea that social problems are best addressed through individual solutions rather than collective initiatives or forms of government support (Harvey 1990, 2005). There is thus a striking correspondence between the features of flexible accumulation Harvey identifies and the features of the posthuman good life that Pearce desires for the future. Indeed, one might argue that the post-Darwinian personality Pearce so optimistically anticipates may be better suited for life in contemporary society than it will be in the distant and uncertain years to come.

3.4 Conclusion: Plasticity and Progress

Transhumanist conceptions of the good life bear some interesting resemblances with those of the Plains Indians who so fascinated Ruth Benedict. For in many respects, the post-Darwinian culture and personality transhumanists envision is of a decidedly Dionysian nature. Transhumanists want to use science and technology to engineer ever more intense, transcendent, and ecstatic experiences. They value individual autonomy and freedom. They want us to become not ordinary mortals but exalted and enhanced "superbeings animated by gradients of well-being." Moreover, like the Plains Indians, the Transhumanist Movement in the United States is very much oriented around celebrating

men's prowess, success, and abilities to access exalted forms of power. Finally, transhumanists also view life as a drama, but one in which our posthuman descendants will bravely explore and colonize every corner of the universe, infusing it with intelligent life. Unlike the Plains Indians, however, transhumanists believe that the best way to inculcate these values, virtues, and experiences is by mastering our emotional states and redesigning our biology. For Pearce, the promise of "paradise" or progress is first and foremost predicated upon a biological upgrade.

For Ruth Benedict, by contrast, it was not biology that first and foremost decided what kind of beings humans become, or even what they are capable of achieving. It was culture. Benedict argued that what sets human beings apart from other animal species and what gives them an evolutionary advantage is precisely their "plasticity." The fact that human behavior is not dictated by biology but is rendered malleable in accordance with diverse ways of living that are learned and *socially* transmitted over time is, she argued, precisely why human beings have been able to adapt to all sorts of changes, challenges, and environments whereas other species have not. Indeed, revisiting the argument Benedict put forth in the opening pages of *Patterns of Culture* strikes me as an apt way to end this chapter. Benedict wrote:

Man is not committed in detail by his biological constitution to any particular variety of behavior. The great diversity of social solutions that man has worked out in different cultures in regard to mating, for example, or trade, are all equally possible on the basis of his original endowment. Culture is not a biologically transmitted complex. What is lost in Nature's guaranty of safety is made up in the advantage of greater plasticity. The human animal does not, like the bear, grow himself a polar coat in order to adapt himself, after many generations, to the Arctic. He learns to sew himself a coat and put up a snow house. From all we can learn of the history of intelligence in prehuman as well as human societies, this plasticity has been the soil in which human progress began in which it has manifested itself. In the ages of mammoths, species after species without plasticity arose, overreached itself, and died out, undone by the development of the very

traits it had biologically produced in order to cope with its environment. The beast of prey and finally the higher apes came slowly to rely upon other than biological adaptations, and upon the consequent increased plasticity the foundations were laid, bit by bit, for the development of intelligence. Perhaps, as is very often suggested, man will destroy himself by this very development of intelligence. But no one has suggested any means by which we can return to the biological mechanisms of the social insect, and we are left no alternative. The human cultural heritage, for better or for worse, is not biologically transmitted. (Benedict 1934, 14)

It is difficult to read this passage without wondering what Benedict would have to say about The Hedonistic Imperative and the transhumanist desire to render our biology more "plastic." She might wonder where culture fits into transhumanist understandings of human evolution. She might heartedly agree with transhumanists that human beings are not hemmed in by a fixed human nature, but rather, are the kinds of creatures who create their own "natures" through a variety of means and around a diversity of values. She might worry whether transhumanist initiatives will chart a path to progress or a road to peril where man destroys himself "by the very development of intelligence." She might ask herself, "What will a posthuman future mean for the discipline of anthropology?" If Pearce's visions do become a reality, will there be a place for "the study of human beings as creatures of society"? Or, will anthropology, like the human beings it currently seeks to understand, become a relic of the Darwinian past, hardly recognizable from the vantage point of a posthuman existence?

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The Social Skin, the Antisocial Skin, and the Pursuit of Morphological Freedom

Transhumanist attempts to achieve immortality and biochemically engineer a posthuman future of eternal bliss reflect a larger commitment to the pursuit of "morphological freedom." Promoting and protecting the "right" to morphological freedom is at the very center of the transhumanist platform and agenda, and it has remained a cornerstone of the Transhumanist Declaration since it was first drafted in 1998. As the 2012 Transhumanist Declaration reads:

We favor morphological freedom – the right to modify and enhance one's body, cognition, and emotions. This freedom includes the right to use or not to use techniques and technologies to extend life, preserve the self through cryonics, uploading, and other means, and to choose further modifications and enhancements. (More and Vita-More 2013, 54–55)

Or, as transhumanist Anders Sandberg explains in a published lecture entitled "Morphological Freedom – Why We Not Just Want It, but Need It":

What is morphological freedom? I would view it as an extension of one's right to one's body, not just self-ownership but also the right to modify oneself according to one's desires.… Morphological freedom is … a negative right. It is a right to be able to do certain things, but it does not in itself imply others are morally obligated to support exercise of it. … As a negative right,

morphological freedom implies that nobody may force us to change in a way we do not desire or prevent our change. This maximizes personal autonomy. (Sandberg 2013, 57)

Sandberg argues that the "freedom to modify one's body is essential not just to transhumanism, but also to any future democratic society" (Sandberg 2013, 56). Whether one wants to experiment with technologies to permanently turn one's "skin green" or one wants to refuse modifications to a body that others might view as in need of repair, the basic premise of morphological freedom is "bodily sovereignty"; each individual should be able to do with his/her body what he/she pleases (Sandberg 2013, 56–57).

The fact that transhumanists enshrined the right to morphological freedom in their founding "declaration" bespeaks a more general anthropological truth: "in any human society," as the anthropologist Terrance Turner observed half a century ago, the body provides one of the primary frontiers upon which the power of society is exercised (Turner [1980] 2017). Bodies are key sites for the inscription and reproduction of cultural values and distinctions.[1] Moreover, bodily adornment, as Turner argued in his seminal essay "The Social Skin," is one of the central means through which individuals are "socialized" and "integrated" "into the societies to which they belong." As Turner explained:

The surface of the body, as the common frontier of society, the social self, and the psychobiological individual; becomes the symbolic stage upon which the drama of socialization is enacted, and bodily adornment (in all its culturally multifarious forms, from body-painting to clothing and from feather head-dresses to cosmetics) becomes the language through which it is expressed. (Turner [1980] 2017, 486)

Turner was particularly interested in "the system of meanings and values" that animate forms of bodily adornment among the Kayapo tribe living

in the southern borders of the Amazon in Brazil. As Turner observed, the Kayapo, a group of indigenous people living in small scattered villages in the rain forest, "possess a quite elaborate code of what could be called 'dress'":

A well turned out adult Kayapo male, with his large lower-lip plug (a saucer-like disc some six centimeters across), penis sheath (a small cone made of palm leaves covering the *glans penis*), large holes pierced through the ear lobes from which hang small strings of beads, overall body paint in red and black patterns, plucked eyebrows, eyelashes and facial hair, and head shaved to a point at the crown with the hair left long at the sides and back, could … hardly leave the most insensitive traveler with the impression that bodily adornment is a neglected art among the Kayapo. (Turner [1980] 2017, 487)

While Turner's essay depicts how forms of bodily adornment reflect a system of meanings and values central to Kayapo society and are used to socialize and integrate individuals into the social "fabric" of Kayapo life, in the late 1990s, Turner's student, Daniel Rosenblatt, highlighted the ways "Modern Primitives" living in "alternative communities" in the United States use forms of body modification to critique and resist the "alienating" and "inauthentic" nature of late capitalist society.[2] In a *homage* essay entitled "The Anti-Social Skin: Structure, Resistance, and 'Modern Primitive' Adornment in the United States," Rosenblatt shows how members of this subculture appropriate "primitive" forms of body modification such as tattooing, body piercing, and scarification to communicate their estrangement from modern society and to "act upon" and give expression to a more "authentic" self (Rosenblatt 1997, 290). By tracing the way body modifications of modern primitives "come to signify resistance" and by carefully unpacking what the category of the primitive has symbolically represented in Western capitalist society, Rosenblatt ultimately demonstrates that bodily acts of resistance, like bodily acts of conformity, are also culturally motivated (Rosenblatt 1997, 292).

In this chapter, I revisit the essays by Turner and Rosenblatt and use them as counterpoints for exploring the transhumanist pursuit of morphological freedom. As noted above, transhumanists insist that individuals should be allowed to do with their bodies what they please. At first glance, therefore, what transhumanists appear to value and champion is not a social skin, nor even an "antisocial skin" in Rosenblatt's sense of the term, but rather a "sovereign skin," a purely autonomous body and subject that will be unhampered by the pressures of society and be absolutely free to develop in whatever way he/she/it/ they sees fit. Such, perhaps, are the fantasies that animate pursuits of radical transcendence. A closer look at transhumanist initiatives to modify or enhance the body, however, does reveal a commitment to a shared set of "meanings and values." Therefore, by focusing on some of the initiatives that animate transhumanist pursuits of morphological freedom, this chapter sheds further light on the values and meanings that animate the Transhumanist Movement and worldview.

4.1 The Kayapo and the Social Skin

Turner's analysis proceeds from the proposition that "man," as Emile Durkheim famously put it, "is double." By this, Durkheim meant to suggest that what sets human beings apart from other animal species is first and foremost the fact that human beings are social creatures who live in a world of meanings and values. As living, breathing, biological organisms, individuals across the planet engage in many of the same activities – eating, sleeping, defecating, and procreating – which are all essential to keep biologically vital forms of life going. However, as cultural beings, all of these activities take on a distinct form, and the manner in which they are conducted reflects an individual's belonging to one society rather than another. As both Turner and Durkheim noted, the cultural patterning of such universal practices also reflects the moral authority societies exert over the individual; for when something as seemingly

"inconsequential" as a norm regarding what to wear is violated, it is, for society, "a serious matter: *de la vie sérieuse*, as Durkheim said of religion" (Turner [1980] 2017, 486).

Turner proposed that this fundamental opposition between nature and culture, and the individual biological being and the socialized member of society, is expressed through the bodily adornment practices of the Kayapo. For instance, "the importance of cleanliness" among the Kayapo, and the "removal of all 'natural' excrescence from the surface of the body," is a means by which the Kayapo attempt to delineate the boundary between the "civilized" or cultured world of human beings and the unruly and animalistic world of nature (Turner [1980] 2017, 488). Similarly, the penis sheath, which men are required to wear upon achieving puberty and being initiated, represents a symbolic effort to tame and repress the potentially disruptive libidinal energies of young men and subordinate them to socially fruitful purposes. As Turner wrote, the penis sheath "symbolizes the collective appropriation of male powers" (Turner [1980] 2017, 490).

Gender, family relations, and age differences are also expressed in forms of bodily adornment, and more specifically, through different styles of wearing the hair. In Kayapo society, hair, like the penis, is regarded as "natural symbol" of libidinal energies (Douglas [1970] 2003). Like the male erection, hair grows out into social space and therefore has the potential to be disruptive. As such, "certain categories of people in Kayapo society are *privileged* to wear their hair long" whereas "others must keep it cut short" (Turner [1980] 2017, 488). Those who are allowed to wear their hair long include nursing infants, women who have born children, and men who have received their penis sheath and been through initiation. By contrast, "children and adolescents of both sexes (girls from weaning to childbirth, boys from weaning to initiation) and those mourning the death of a member of their immediate family (for example, a spouse, sibling, or child) have to cut their hair short" (Turner [1980] 2017, 489).

Turner proposed that in order to understand the distribution of long and short hair, it is necessary to "comprehend Kayapo notions about the nature of family relations." He observed that in Kayapo society, parents are thought to be connected to their children through a common physical substance that they share through conception and the womb. This "relation of biological participation lasts throughout life," Turner wrote, "but is broken by death." As such, the death of a person's child or sibling is thus regarded as diminishing their own biological being and energies and as such, "cutting off the hair, conceived as the extension of the biological energy of the self into social space, is the symbolically appropriate response to the death of a spouse or a child" (Turner [1980] 2017). Following this logic, a nursing child who is regarded as an "extension of the biological being and energies of its parents" is permitted to wear its hair long, but once weaning occurs and the child is regarded as a "separate" biological and social being, its hair is cut (Turner [1980] 2017).

Among the Kayapo, the differences between women and men and the societal roles they fulfill are also organized around this opposition between biological energies that can be used to procreate individual offspring and collectively channeled energies that can be harnessed to reproduce society itself. Whereas women "reproduce the natural biological individual and as a corollary, the elementary family," men, Turner wrote, "reproduce society through the transformation of their 'natural' biological and libidinal powers into collective form" (Turner [1980] 2017, 490).

Ideas about the transmission and acquisition of knowledge, as well as political authority and stature, can also be read from the Kayapo "social skin." The large open holes placed in the ear lobes signify the importance the Kayapo attribute to listening as a means of acquiring knowledge, whereas the lip plug, worn by older men, represents their powers of oration and political influence. Turner's analysis decodes a number of other distinctions as well, but at the most basic level, he

demonstrates that the Kayapo cultural order and thus body is structured around a set of symbolic oppositions between nature and culture, the human and nonhuman, the individual and the collective, the biological and the social, and female and male. Moreover, he demonstrates that for the Kayapo, the body is first and foremost a cultural text, a means for expressing the cultural order and one's designated place or role within it, rather than a canvas upon which to communicate one's individuality or idiosyncratic tastes and preferences.

4.2 Modern Primitives and the Antisocial Skin

For "Modern Primitives" living in "alternative communities" in the United States, the body is also a vehicle for communicating meanings and messages. However, in stark contrast to the Kayapo Turner studied, Rosenblatt's analysis focuses on how members of these communities use and appropriate forms of body modification from "primitive" societies to critique and resist mainstream Western society and create and express a more authentic self. In order to understand how and why "the primitive" is mobilized in these acts of critique and resistance, Rosenblatt argues that we must understand the historical and cultural context in which the category of the primitive has taken on meaning. Drawing upon "Western understandings of the world as elaborated in cosmogonic mythology," "classic economic theory," and the writings of influential seventeenth-century thinkers such as Jacques Rousseau, Rosenblatt shows how the category of the primitive has long been mobilized as a way to critique Western society. Rousseau, for instance, regarded "primitives" as "noble savages," who had not been corrupted by the ills of Western civilization. Similarly, numerous other influential Western thinkers have posited that primitive people live a more natural, authentic, and less repressed existence. As we saw in Chapter 3, Freud himself commented on this in his book *Civilization and Its Discontents*. This leads Rosenblatt to argue:

While Western society is certainly wedded to the notion of progress, and has been since the Enlightenment, there have always been countercurrents. What I argue is that our understanding of progress contains within it the seeds of those countercurrents – that there is a structural basis for the recurrent ambivalence about our own system that underlies the repeated tendency to use the primitive to criticize it. (Rosenblatt 1997, 297)

The idea that primitive peoples are further removed from the alienating and corrosive influences of modern society, and live a less repressed existence than people in the industrial West, has also helped fuel the idea that appropriating "primitive" practices such as tattooing, piercing, fleshhook hanging, or scarification can provide a means to discover, express, and celebrate a more authentic, less inhibited, and even "antisocial" self (Rosenblatt 1997, 322). For instance, Rosenblatt argues that among Modern Primitives:

tattoos are often used to represent and objectify some private, intuitive, and affective self, which is conceived of as being opposed to a public, rational self. While such a self is thought of as having an existence prior to the tattoo, the tattoo can be part of the process of getting in touch with that self, and the act of marking the skin seems to be an act of claiming or reclaiming the self. (Rosenblatt 1997, 308)

Nor does Rosenblatt miss "the irony" when he describes how Modern Primitives draw inspiration from traditional societies in their efforts to express a nonconformist, authentic self. For even as our brief examination of the Kayapo makes clear, in many non-Western societies (the very societies that Modern Primitives seek to emulate, that is), what is deemed most important by the people who belong to them is to *conform* to the social group, to be fully integrated into society, not to stand apart from it. Rosenblatt thus concludes his essay by stating:

In closing, I must note an irony here: many "real primitives" – that is to say, people not of the West – who have had the (dubious?) privilege of participating in Western consumer society, may find our society alienating

not because we stifle individual expression or suppress desire but because, not valuing our kith and kin, we are left *only* with individual expression. (Rosenblatt 1997, 326)

4.3 The Transhumanist Pursuit of Morphological Freedom

How does the transhumanist pursuit of morphological freedom compare and contrast with the examples discussed above? The first point to note is that for transhumanists, the body is not so much regarded as a text as it conceived of as a *tool* that can be modified, augmented, and even "hacked" in order to help human and posthuman descendants attain ever more *enhanced* and exalted forms of experience. Put differently, among transhumanists, the body is less conceived as a stable site for the inscription of dominant meanings and values than it is understood as an ongoing project to be worked on and continually transformed.[3] Some have argued that transhumanists display a disdain for the body (Geraci 2010) and in certain respects, this rings true. The transhumanist antithesis toward the body can be gleaned in the myriad attempts to create a "mind centric society." Prominent transhumanists such as Martine Rothblatt and Hans Moravec look forward to the day when we can transcend the body completely (Moravec 1988; Rothblatt 2013, 2014). Similarly, in an interview with journalist Mark O'Connell, Tim Cannon, one of the figureheads of the grinder or DIY transhumanist movement, which I discuss below, lamented: I'm trapped in the wrong body because I'm trapped in *a* body. *All* bodies are the wrong body … My goal, personally, is to peacefully and passionately explore the universe for all eternity. And I'm sure as shit not gonna be doing that in this body (O'Connell 2017, 56).

And yet, while Geraci is correct to highlight the frustration and distaste some transhumanist express toward the body, the manifold attempts transhumanists employ and envision to enhance the body also suggest they are still very invested in it (Tim Cannon included). When

considered collectively, these efforts do begin to reveal a commitment to a shared set of meanings and values.

4.3.1 *From the Social Skin to the Subdermal Implant*

In contrast to the Kayapo, many of the body modifications transhumanists are interested in are focused on the subdermal rather than the epidermis. This is certainly the case among transhumanists such as David Pearce who advocates using biochemical means in the pursuit of morphological freedom, but it is also the case among an edgier group of DIY "scrapheap" transhumanists and "grinders" who have received an outpouring of media attention over the last several years for experimenting with implantable technologies. These "bodyhackers," "biohackers," and "practical transhumanists, as they are also known, have been widely described in the press as people "who don't want to wait around for the Singularity to happen" and instead are actively taking the development and application of new technologies into their own hands (O'Connell 2017, 135). In contrast to the venture capitalists operating out of Silicon Valley, DIY transhumanists are staunch proponents of open source technology and they argue that one shouldn't require formal academic training or "laboratories and large bank accounts" in order to realize the promise of science and technology. For instance, in a talk entitled DIY Transhumanism, held at the Humanity+ Summit, Bryan Bishop explains: "The fundamental bare bones of transhumanism is that it's about human enhancement, the idea is about building yourself from what you are to what you want to become. And this process involves many different tools…. DIY transhumanism means not having academic grants, maybe not having all the money in the world." He observes that DIY transhumanism brings people together who:

are interested in democratizing science out of the usual university lab setting, or tools for amateur scientists and citizen scientists so they can actually pursue different technologies for research that otherwise they

might not pursue. … So DIY BIO represents a revolution in the idea of transhumanism, why don't we just go do it ourselves. We can find the tools, we can build the tools, we can get tools cheaply.[4]

Embracing this ethic, DIY bodyhackers typically implant technologies into their bodies on their own, without the use of anesthesia or any medical supervision. One of the more common devices implanted is the radio frequency identification (RFID) chip. By placing these chips under the skin, one can unlock a door or an iPhone with the "mere swipe of a hand." In 2018, one of the more prominent figures in the DIY transhumanist scene, "Meow-Ludo Disco Gamma Meow-Meow," made international news when, after implanting an Opal transport card into his hand, he was fined $220 by transport authorities in Sydney Australia for "using public transport without a valid ticket and for not producing a ticket to transport officers."[5]

Bodyhackers often claim practical reasons for such modifications. For instance, in both 2018 and 2019, I attended the annual BDYHAX convention in Austin, Texas. The three-day convention provides a highly anticipated "social occasion" (Goffman 1963b) for bodyhackers and DIY transhumanists. On both occasions, the atmosphere at the convention was friendly, and at times even carnivalesque, but attendees also brought a seriousness to the projects and initiatives being discussed, among which included: the future uses of technology for sex; "national security in the age of programmable biotechnology"; "DIY gene therapy and life extension"; "the open artificial pancreas project"; and many more. Attending the convention gave me the opportunity to meet and talk with a number of people at the center of the body hacking "community." As one attendee told me after having an RFID implanted in his hand, "This way I won't have to worry about losing my car keys. It's like cutting out an extra step, I can just go swish and my car unlocks."

Transhumanist icons Martine Rothblatt, Ray Kurzweil, and Elon Musk have similarly proposed that in the future we may be able to use implantable devices to enhance our abilities to retrieve and process

information. They propose that in the future, it may be possible to implant a chip in our brains and have instant access to all of the data on the Internet, we would no longer need our cell phones and computers to be connected to the World Wide Web.[6] As I discussed in Chapter 3, these kinds of initiatives again point to the supreme value transhumanists place on "efficiency" and they lead one to imagine a world where the interior of the body will increasingly become technologized and operate as the control center from which posthumans experience the world; all those "unnecessary" acts that people once engaged in, like unlocking doors or googling something on the Internet will be a thing of the past.

However, while some forms of body modification do have definite practical advantages (for instance, the well-known transhumanist and cyborg activist Neil Harbisson has implanted antenna in order to help him combat his color-blindness), the purported practicality and efficiency of such modifications can also be read as examples of what Jean Baudrillard called "the alibi of use value" (Baudrillard 1981). For upon closer inspection, the appeal and allure of implanting devices under the skin goes far beyond the matter of utility and has everything to do with the kind of aesthetic meanings transhumanists seek to communicate through their various forms of body modifications. Indeed, many of the devices being implanted, such as magnets and LED lights, serve very little practical purpose. In an article entitled "Would YOU implant lights under your skin? Bizarre trend sees people transform themselves into glowing cyborgs," it was noted that a group of "biohackers" implanted LED lights under their skin:

The men each had a Northstar V1 chip – which is about the size of a large coin – implanted into their hands. The chip features a ring of LED lights and is designed to be able to light up tattoos from beneath the skin, emulating the bioluminescence of jellyfish.[7]

In contrast to Modern Primitives, therefore, transhumanist forms of body modification draw inspiration not just from the past but from

the future. Instead of trying to use such practices to unearth a more authentic self, they view these forms of modification as a way to create an *enhanced* "cyborg" or "hybronaut" self with new sensory powers (Beloff 2013).[8] For instance, in a talk entitled "Cybernetics for the Masses," Lepht Anonym, renowned bodyhacker and grinder, described her attempts to achieve "sensory expansion" on "the lowest of low budgets" through the use of everyday kitchen tools and easily affordable, implantable electronic devices.[9]

Tim Cannon and Rich Lee, who are also prominent figures in the DIY transhumanist scene and who both attended the BDYHAX Conventions, have long been experimenting with implants. In 2013, the *Humanity+* magazine featured an article on Cannon, after he developed and implanted a device in his arm called the Circadia 1.0. As the article explains:

What does it do? According to the Grindhouse webpage for the device, "Circadia is an implantable device that can read biomedical data and transmit it to the Internet via bluetooth. Instead of taking snapshots of your health by visiting a doctor, you can aggregate weeks or months of medical data that you can store for your personal viewing. Messages, warnings, or texts from your android phone to Circadia implant can be displayed via LEDs through your skin.… The actual implantation of the Circadia device is better understood as an artistic demonstration of what might be possible in the future and not necessarily a realistically useful QS system.[10]

Describing the experience of having magnets implanted in his fingertips that respond to electromagnetic fields, Rich Lee noted, "You can feel it because all those nerves in your fingertips have grown around the magnet and it has a texture and you're feeling this otherwise invisible world."[11]

The implant Rich Lee has become most famous for, and which he spoke extensively about in a talk entitled "Cyborgasms," delivered at the 2018 BDYHAX Convention, is "The Lovetron 9000." Over the

last several years, Rich has been working to perfect the technology for a safe, vibrating device that can be implanted under the skin, just above the penis. This, he proposes, will enhance experiences of sex, making more pleasurable forms of "cyborgasm" possible. Lee also discussed other conceivable technologies that might make "orgasm on demand" possible. For instance, he proposed that in the future people might have subdermal sensors implanted into the spine that could be activated by others wearing sensors to produce an instant orgasm. He discussed the possibility of developing implants that could provide users with data about their sexual performance, something akin to a sex fitbit. At one point in the talk he paused, lifted his glass, and said, "Let's get weird, I am going to need to kill this drink for this part," and then after putting up a PowerPoint slide titled "Social Fuckery," he discussed the possibility of a future where people would be able to put sensory activated decals on stop signs or any other objects in their environment to achieve erotic pleasures. "You could fuck the world, and mean it!" he laughed. Thus, if the Kayapo used the penis sheath as a way to contain and channel the libidinal energies of men, transhumanists like Lee are looking for technologies that can amplify these energies and use to them to produce ever more vibrant experiences of pleasure that "literally" involve "fucking" the social world around them.

In addition to achieving greater efficiency and pleasure, DIY transhumanists often proclaim that they engage in these acts of body modification "because it's cool." If among the Kayapo the lip plug symbolizes a certain level of male prestige and power, I contend that among the predominately white male subculture of DIY transhumanists, implants and other forms of body hacking do. When asked about their various motivations for engaging in these practices or why they admired the implants others had performed, the male "grinders" and bodyhackers I interviewed almost unanimously responded, "Because it's cool!" For instance, I asked Gabriel, a body and biohacker from Florida whom I met

at the Convention, if there were any people in particular who inspired him in the body hacking community he said:

Well, that's the thing. I think that I can't choose just one. Anybody who is *doing* something is particularly awesome. You have to be creating something that's cool, you know? Rich Lee, also very cool. He's got this thing (The Love Tron 9000) and he's running with it. He is unabashedly trying to do it, you know? Great. That is awesome.… Everything that Tim Cannon and Grindhouse have done it's … what Justin just did with that lactose stuff. That's his first big hack, you know? It's cool!

The idiom of "cool," with its emphasis on making, creating, and doing, provides bodyhackers with a way of talking about and performing a highly valorized form of "technomasculinity" that is central to the DIY transhumanist subculture and one might argue, the world of science fiction fans more generally (Fernbach 2000).[12] Although many bodyhackers are heavily tattooed and pierced and share some of the aesthetic sensibilities of Modern Primitives, among DIY bodyhackers, "real men" go one step further; they don't just get tattoos, they also implant lights under the skin to make their tattoos glow "like jellyfish." Or as one bodyhacker at the convention proclaimed while holding court amongst his many admirers in the hotel lobby, "We're not a bunch of hippy, dippy bongo players with dreadlocks hanging out and having fun, we actually make shit, we get shit done!"

4.3.2 *Species Freedom*

For many transhumanists, the pursuit of morphological freedom is also tied to the possibility of transcending the limitations of our species by appropriating attributes and capabilities from other animal life forms. While the example above discusses using implantable lights to make one's tattooed skin glow like a jelly fish, other forms of modification that draw inspiration from the animal world include implanting horns, fangs, tails, and even dorsal fins. Transhumanists are also very interested in

using biology to engineer capacities that other species have. For instance, at the 2018 BDYHAX convention, one of the technologies being touted was eye drops that could enable people to achieve the same kind of night vision as bats. Liz Parish, a renowned and respected transhumanist and biohacker and founder of the company BioViva, gave a talk in which she discussed her current self-experimentations using gene therapy to offset the aging process. In the talk, she also spoke of how genomic engineering and the making of synthetic chromosomes will make new forms of trans-species capabilities possible. As she remarked, "I want us to take from the phylogentic tree. Wouldn't you like to be able to change your color like a squid or see in many more colors?"

In 2017, transhumanists Neil Harbisson, Moon Ribas, and Manuel Muñoz founded "The Trans Species Society." The expressed goal of the society is to "Give voice to non-human identities; raise awareness of the challenges trans-species face; advocate for the freedom of self-design."[13] More specifically, they are interested in how technologies can be used to develop "new senses and organs" that will enable posthumans to perceive and experience reality in new ways. Similarly, Zoltan Istvan, who ran for president of the United States in 2016 as the nominee for The Transhumanist Party, predicts that in the future technology will make it possible to innovate the human body in ways that blur the boundaries between different species. He writes:

Because of CRISPR Cas-9 tech and new ways to modify DNA, the notorious bar full of wild alien creatures on planet Tatooine in the original *Star Wars* may not be so far fetched anymore. It's possible that humans may create advanced sapient beings, creatures, and even chimeras in the next 15 years. We may also add limbs to our bodies, eyes to the back of our heads. (Istvan 2018)

In this respect, transhumanists are not so much concerned with maintaining the boundaries between human and animal as they are interested in being able to control, master, and appropriate capabilities

from both of these domains. Unlike the Kayapo, many transhumanists would happily transgress the boundaries between the human and animal world if it enabled them to live a more *enhanced* existence.

4.3.3 Ecotogenesis and Posthuman Social Reproduction

In many respects, the aesthetics and ethics of flexibility that incline transhumanists to break down boundaries rather than maintain them apply to gender as well. The transhumanist pursuit of morphological freedom implies that a person should not be restricted by the biological sex they are born with but rather should be free to adapt their bodies to the gender of their choice or experiment with various forms of gender fluidity. Martine Rothblatt is a prime example of this. Born Martin Rothblatt, Martine underwent gender reassignment surgery after getting married and bearing children with her wife Bina. Her books, *The Apartheid of Sex* (1999) and *From Transgender to Transhuman: A Manifesto on the Freedom of Form* (2011), offer powerful arguments for using technology to liberate people from the constraints of their biological bodies and promoting greater tolerance for gender diversity and gender fluidity in society. For example, in chronicling her own passage from transgender to transhuman, Rothblatt writes, "To be transgendered one has to accept that they have a unique sexual identity, beyond either male or female, and that this unique mental gender state cannot be happily expressed as either rigidly male or female" (Rothblatt 2011, xiii)

However, in other ways, transhumanists do reproduce longstanding gender binaries and asymmetries. Aside from the fact that the Transhumanist Movement in the United States is predominately composed of men, and white men at that, transhumanist imaginaries also reflect the tyranny of gender and decidedly male forms of empowerment. Indeed, this may help explain the popularity of another initiative that is often touted by transhumanists as a path to morphological freedom, ectogenesis. Ectogenesis refers to the development of embryos in

artificial conditions outside the uterus, and among transhumanists, it is heralded as one of the key ways we will be able to liberate ourselves from the demands and limitations of human biology. For instance, Rothblatt writes:

the field of regenerative medicine will ultimately permit ectogenesis, the rapid growth outside of a womb of a fresh, adult-sized body in as little as twenty months…advances in neuroscience will enable a cyberconscious mind to be written back into (or implanted and interfaced with) neuronal patterns in a freshly regenerated brain (Rothblatt 2014, 66).

Or, as we saw in Chapter 3, David Pearce argues that ectogenesis will be key to realizing a happier, more intelligent, and more creative posthuman species. As he states:

posthumans may have the innate capacity for aesthetic experiences that are *billions* of times more beautiful than anything accessible at present – possibly more so after the imbecilic constraints of the human birth-canal are overcome: artificial wombs are no more "unnatural" than artificial clothes. (Pearce 2008, 8)

While one might argue that ectogenesis should be celebrated as a means that will liberate women from the burdens of pregnancy and birthing children, thereby giving way to more equal relations between "the sexes," a closer look at the language here suggests another reading. If the Kayapo social skin reflects ideas about the different roles men and women play in reproducing society, so does the transhumanist pursuit of ectogenesis. As Turner noted, among the Kayapo, women "reproduce the natural biological individual, and as a corollary the elementary family," whereas men "reproduce society through the transformation of their 'natural' biological and libidinal powers into collective form" (Turner [1980] 2017, 490). Indeed, the dynamic Turner points to regarding the gendered nature of social reproduction among the Kayapo is hardly limited to Kayapo society. As the ethnographic record attests, in many

societies, men are mythically and symbolically endowed with exalted powers of social reproduction, whereas women are relegated to the margins of reproducing immediate offspring and domestic relations (Kahn 1993). Although the analogy with the Kayapo is an imperfect one, it does illuminate something telling about the way transhumanists conceive of the gendered division of social reproduction in the imagined posthuman future. For if thus far, women have "reproduced the natural biological individual" with, as Pearce puts it, all of the "imbecilic constraints of the human-birth canal," in the exalted posthuman future, men will be able to use technology to "reproduce society through the transformation of their 'natural' biological powers into collective form." Petri dishes, rather than penis sheaths, will symbolize their role in the collective reproduction of society.

4.3.4 *Freeing the Brain and Becoming Remarkable*

For most transhumanists, the pursuit of morphological freedom typically involves finding ways to *optimize* their capabilities and improve upon their Darwinian "wetware." One of the key ways transhumanist seek to augment human capabilities is through developing new technologies for cognitive enhancement and promoting what is also referred to as "cognitive liberty" (Sententia 2013). The desire to "build better brains" has resulted in a multipronged research agenda that variously draws upon developments in neuroscience, nanotechnology, computing, artificial intelligence, and pharmacology (Rose 2006). Some of the initiatives transhumanists are currently pursuing include: designing nootropics to enhance cognitive functioning; developing new technologies to improve, and even digitally store human memory; and as mentioned above, making neural interface implants that will enable people to link their brains to information systems such as the Internet.[14]

At the 2018 BDYHAX Convention, all of these initiatives were discussed. In fact, upon registering for the convention, attendees received a welcome bag that included information about the convention, along with an assortment of "goodies." Among these was a small foam model of a brain and a free sample of "Qualia": a "radical cognitive enhancement dietary supplement" produced by "The Neurohacker Collective." Attached to the free sample was a postcard size advertisement and coupon offering "$30 off your first month's subscription" and "access to a new world of experience."

Although not all members of The Neurohacker Collective self-identify as transhumanists, they are working toward some of the same ends, and the postcard provides a very vivid example of the way transhumanists understand and frame cognitive enhancement as a central component of morphological freedom. As such, here, I want to take a careful look at each of its components and show how this text condenses and displays a more pervasive set of meanings and messages that animate transhumanist attempts to engineer a better future.

The card is organized into five distinct paragraphs and includes detailed information on the purpose of the product and "The Neurohacker Collective" producing it. At the top of the card, in highlighted and capitalized letters, it reads:

BECOME REMARKABLE

Qualia is a unique and powerful tool for cognitive enhancement. Designed for comprehensive upgrade, it supports a sharper intellect, a richer sensory experience, and the fortitude to take on challenges with gusto.

If other transhumanist initiatives, such as pursuing immortality or abolishing suffering, are presented as "moral imperatives" for saving human beings from the tragedy of their biology, The Neurohacker Collective makes it very clear that it is explicitly in the business of

enhancement. Their goal is not just to just to eradicate suffering and ensure health and well-being but to improve upon it to the point of becoming "remarkable." And yet, to become remarkable, potential users are also encouraged to relate to the supplement as something that is quite ordinary and mundane. For instance, in another highlighted section of the card, Qualia is described as food for the brain. It reads:

NUTRITION FOR YOUR BRAIN

An optimized brain supports an optimized life. Qualia's synergist blend of nootropics, adaptogens, and nutrients are designed to fine tune every system of your brain towards its highest capacity.

Moreover, the advertisement not only presents Qualia as something that is nutritious, it also goes to significant lengths to demarcate it from other potentially addictive or illicit substances that might invoke concern. As a "dietary supplement," Qualia does not have, nor needs, approval from the FDA. However, in the absence of such an assurance, the ad works to bolster consumer confidence by presenting Qualia as a "respectable" product, born from cutting edge scientific research. As another section of the card reads:

LEADING EDGE IN INTEGRATIVE NEUROSCIENCE

Our approach starts with honoring the intelligence of the body. Utmost care and consideration are taken to support neurological function without creating overrides and dependence.

Furthermore, in a strikingly explicit celebration of liberal values, which, as many have noted, are deeply ensconced in the Transhumanist Movement, as well as the hacker community more generally, the advertisement rejects dependency of any form (Coleman 2012; Farman 2012a; Hughes 2004; More 2013; Valentine 2012). In Althusser's terms, it hails the consumer to heroically embrace their "freedom," "sovereignty,"

and "full creative power" (Althusser 1971). As the fourth section of the card reads:

FREEDOM FOR YOUR MIND

Within you lies a force to be reckoned with. Transcend the limitations that hold you back – whether it be procrastination, anxiety, brain fog, or cognitive decline. What's left is access to your full creative power.

To the extent that it displays a hearty respect for the cultural obsession with authenticity, the advertisement does suggest some affinities between The Neurohacker Collective and the Modern Primitives Rosenblatt studied. As Charles Lindholm has argued, "Authenticity, in its multiple variations, exalted and ordinary, is taken for granted as an absolute value in contemporary life" (Lindholm 2008, 1). This can be gleaned in the way Qualia is presented as an enhancement that works by *removing* the obstacles "that hold *you* back." It is not about turning the consumer into a different person, but rather, helping the consumer realize the "full" creativity and power that already lies "within." The moral imperative promoted here is to actualize the self rather than save the lives of others.

And yet, in the very next section of the postcard, self-investment is framed as the path par excellence for advancing the welfare of our species. It is precisely by helping people take ownership of their potential, and thereby enabling them to live more productive and responsible lives, that Qualia is cast as a utilitarian agent for the "greater good." This can be gleaned in the final highlighted section at the bottom of the card, which explains the purpose of The Neurohacker Collective:

NEUROHACKER COLLECTIVE

The Neurohacker Collective exists to evolve human sovereignty. We develop technologies that help us think clearly, experience emotions fully, and make the best choices for our lives and the greater good.

With this final declaration, consuming Qualia becomes a means of fulfilling one's duties to society, and producing "the greater good" becomes as simple as swallowing a pill. Read as a composite, therefore, the postcard promotes a widely circulating neoliberal message: fix the self, or in this case, the brain, and society will follow.[15]

Indeed, this message is reiterated in the mission statement posted on The Neurohacker Collective website:

Our mission is to use the best of what we know about how the brain and mind work from all fields and disciplines in the service of realizing humanity's deepest potentials as a species, starting with the self and moving outward.[16]

The message imparted on The Neurohacker Collective website and the postcard circulated at the BDYHAX Convention resonate with many of the points discussed in Chapter 3. It also recalls Farman's discussion of "biotechtopia." Farman finds that among immortalists, the idea of engineering a better society through social or structural transformations gives way to the idea that utopias can be produced at the "molecular" level. He writes, "If modern utopian promises relied on shifting social units, these new utopian imaginaries rely on shifting molecular or even atomic units" (Farman 2012a, 419). This kind of shift is clearly evidenced in the examples above, where research into social inequalities is trumped by research into brain chemistry.

Moreover, it is not just the site of intervention that changes but also the means. As Farman notes, immortalists propose that the most effective way to harness the powers of science and technology is through "noninstitutional channels." As he writes:

Whereas state and society were key to previous promises of achieving a better life, scientific intervention, especially independent DIY, non-institutional science, is considered to be the only medium through which human improvement can be imagined and promised, the only vessel that "can hold a promise."(Farman 2012a, 398)

This again resonates in striking ways with the core "principles" listed on the website of The Neurohacker Collective. For instance, it states that the collective is committed to "competence over credentials" and explains, "If you know what you are doing and can play nicely with others, it doesn't matter what your title is." The collective is described as "antipaternalist" and invokes a quote from Woodrow Wilson that reads "The highest form of efficiency is the *spontaneous* coordination of a free people." The website further describes the collective's commitment to "a collaborative spirit" and "postcorporatist" philosophy. It states that "This new kind of science depends upon sharing research and results with honesty, rigor and respect.… We use the best techniques of modern business to deliver on our mission. Mission centered, profit supported."[17]

The emphasis on being "mission centered, profit supported" is also reminiscent of David Valentine's research on New Space Entrepreneurs. Valentine reminds us that transhumanist initiatives, whether they involve hacking the brain, or settling space, are not just driven by the "workings of 'the market' but rather, to be fully understood," they must be considered as "social, ideological," and even "cosmological" projects that are ultimately committed to a much larger goal: a "radically transformed human social future" (Valentine 2012, 1049). In a section of the website entitled "Who We Are," both the commitment to a radically transformed human future and the use of noninstitutional means to get there are celebrated. Indeed, to come full circle in this discussion, according to the website, these ends and means are precisely what render neurohackers "remarkable." As the passage explains:

In his 2013 answer to the annual Edge magazine question, Eric Weinstein made a distinction between two very different kinds of people: the "excellent" and the "remarkable". The former, he says, have optimized for playing and winning the current dominant game. They have gone to the best schools. They have worked at the best institutions. They have excelled. Echoing evolutionary theory, he calls them "hill climbers" – and if you need

to climb a hill, they are the right people to call. But if the challenge is not to climb some well-understood hill, but to cross the "adaptive valley" of the unknown, the excellent are woefully unprepared. If you need to wander through uncertainty in search of an as yet poorly understood but potentially vastly superior game, you need to call on an entirely different kind of person: the remarkable.[18]

In this formulation, the path to an enhanced future, to playing a "vastly superior game," requires rejecting the "business as usual" approach. It is proposed that institutional knowledge, with its time-consuming research protocols, restrictive regulations, and obsession with credentials will hinder the evolution of the species. Therefore, those who do not share this vision of the future are less "superior" than those who do, condemned forever to the world of the "excellent" rather than the "remarkable."

4.3.5 Body Augmentation: Freedom and "Fixes"

In addition to enhancing cognitive and emotional capacities, the commitment to morphological freedom also entails using technology to enhance physical capabilities. Indeed, although Sandberg proclaims that the right to morphological freedom "implies that nobody may force us to change in a way we do not desire" and applies equally to the right to "refuse modifications to a body that others might view as in need of repair" (Sandberg 2013, 56–57), his writings, like the Qualia advertisement discussed above, also suggest that the pursuit of morphological freedom requires a commitment to "be all you can be." As he explains:

Morphological freedom can of course be viewed as a subset of the right to one's body. But it goes beyond the idea of merely passively maintaining the body as it is and exploiting its inherent potential. Instead it affirms that we can extend or change our potential through various means. It is strongly linked to ideas of self-ownership and self-direction. (Sandberg 2013, 57)

To accept the body in its given state and not develop it beyond its "inherent potential" is to live a less than authentic transhuman existence. For authenticity, among the transhumanists, is not so much a matter of discovering or preserving an essential self as it is about working to continually improve the self.

While Sandberg is confident that the right to morphological freedom will ensure bodily sovereignty in the future, others see serious tensions between the transhumanist pursuit of enhancement, the right to bodily sovereignty, and the normative evaluations bodies are subjected to. These tensions are an explicit focus of the documentary film "Fixed: The Science/Fiction of Human Enhancement" which, along with the documentary "Transhuman: Biohackers and Immortalists," was screened at the 2018 BDYHAX convention. Told primarily from the perspective of five people with disabilities, the film explores the implications of emerging human enhancement technologies and warns that without the proper checks and balances in place, transhumanist enhancement initiatives are likely to perpetuate discriminatory forms of ableism in the future.

By showing the film, the organizers of the convention opened up a critical space for questioning transhumanist enhancement initiatives and for considering how such initiatives might adversely affect those with disabilities as well as those able-bodied subjects who do not aspire to augment their bodies with technology in the future. However, equal weight was also given to celebrating the potential of body augmentation technologies. In fact, the keynote speaker at the convention was Justin Sanchez, a representative from The Defense Advanced Research Projects Administration (DARPA). In a talk entitled "National Security in the Age of Programmable Biotechnology," Sanchez discussed DARPA's research initiatives in the field of "biotechnologies," "hacking the brain," and "revolutionary prosthetics." Sanchez emphasized how these technologies are being used to counter "threats" from biological warfare and help disabled

veterans restore memory function and bodily mobility. His talk included a moving footage of an amputee soldier who was able to regain a sense of touch and feel his girlfriend's hand through the use of a neural interface high-tech prosthetic.

What was most interesting about Sanchez's presentation was not the new technologies it put on display but rather the mere fact that he was there. Why would DARPA be interested in speaking to a bunch of DIY bodyhackers and transhumanists? The struggling soldier on the screen, who was using prosthetic technologies to manage his disability, seemed far removed from the predominately able-bodied and heavily tattooed and pierced audience gathered at the Sheraton Hotel in Austin. And yet, as the presentation unfolded, Sanchez subtly and skillfully created a link between these worlds. As Sanchez explained how DARPA technologies are used to counter threats to national security or repair and improve injured veterans' bodies, it eventually became clear that his talk had another purpose as well: to make a case for mainstreaming these technologies and extending their reach into the civilian world, a dynamic that David Serlin argues also animated the spread of new forms of medical and technological interventions in the aftermath of World War II (Serlin 2004).

For instance, Sanchez praised the audience for being "early adopters" and he began his presentation by noting that some of the technologies civilians rely upon today, such as "the GPS in our cell phones," were first developed through DARPA research initiatives. Thus, the underlying message of Sanchez's talk was that body augmentation technologies should not be reserved for fixing national security problems or people with disabilities. Instead, he proposed that fixing was just the first step in enhancing lives on a larger scale. By raising the possibility that in the future ordinary citizens will be able to benefit from these "revolutionary" technologies, Sanchez's talk implicitly raised the question, why be able-bodied when you could be enhanced?

4.4 Conclusion: The Sovereign Skin, Morphological Freedom, and Technonormativity

For transhumanists, the body is also a vehicle for communicating meanings and messages. While the pursuit of morphological freedom and the promotion of bodily sovereignty might initially suggest that transhumanists adhere to an "anything goes" attitude toward the body, a closer look at their body modification initiatives reveals that the transhumanist "sovereign skin" is no less the product of collective meanings than "the social" and "antisocial" skins analyzed by Turner and Rosenblatt. Indeed, it is precisely by using these "skins" as a foil that I have hoped to more clearly delineate what these meanings and values are.

If the Kayapo social skin reflects the profound importance the Kayapo place on being integrated into the social order, and the antisocial skin reflects Modern Primitives' attempts to recover an authentic self and resist the alienating nature of late capitalist society, the "sovereign skin" transhumanists seek to cultivate suggests not so much a desire for integration or rejection but rather a yearning to harness the technoscientific developments of modern society to create a self and a body that continually go beyond the conditions of their current existence. The pursuit of morphological freedom is animated by the desire, if not mandate, for continual enhancement. Indeed, in the transhumanist imaginary, enhancement is not so much a discernible end as it is a perpetual source of motivation, a goal to continually aspire to. For transhumanists are deeply committed to the idea that we should always be evolving, that our nature is to continually transcend rather than settle for what we have been given.

Moreover, transhumanists propose that this can be accomplished by transcending many of the boundaries that the Kayapo and Modern Primitives sought to maintain. Transhumanist forms of body modification purposively blur the boundaries between nature and culture and human and nonhuman. Whether this is done through

initiates that seek an ever greater integration of humans and machines via implant and prosthetic technologies or by developing technologies to simulate the capabilities of nonhuman others and borrow from the "phylogenetic tree," transhumanists are much more comfortable with such boundary crossings than their Kayapo and Modern Primitive counterparts. For instance, Martine Rothblatt proposes that in the future we will need to dismantle the rigid boundary between the human and nonhuman. She writes:

it is too constraining for there to be but two legal forms, human and non-human. There can be limitless variations of form from fully fleshed to purely software, with bodies and minds being made up of all degrees of electronic circuitry in between. To be *transhuman* one has to be willing to accept that they have a unique personal identity, beyond flesh or software, and that this unique personal identity cannot be happily expressed as either human or not. It requires a unique, *transhuman* expression. (Rothblatt 2011, xiv)

As Rothblatt's remarks illuminate, this comfort with boundary transgressions reflects another value that is of supreme importance among transhumanists and that stands at the center of their definition of morphological freedom: the value of individual autonomy and freedom. For transhumanists, the pursuit of morphological freedom requires both an ever-increasing acceptance of technology and a firm commitment to uphold liberal values. Most transhumanists agree that protecting personal sovereignty, freedom, and autonomy is essential for creating a better future. Indeed, it is precisely through their claims to uphold these values that transhumanists refute unsavory accusations that they are promoting a twenty-first-century eugenics movement. As Sandberg explains:

Many have expressed fears that technologies such as genetic modifications would be used in a coercive manner, enforcing cultural norms of normality and desirability.… But misuse can be prevented by setting up strong ethical

safeguards in our culture and our institutions. Seeing morphological freedom as a basic right is one such safeguard. If it is widely accepted that we have the right to control how our bodies are changed both in the positive sense (using available tools for self-transformation) and in the negative sense of being free to not change, then it becomes harder to argue for a compulsory change. (Sandberg 2013, 60)

I believe transhumanists are sincere when they say they are committed to protecting the rights and freedoms of individuals; it is not hypocrisy that renders their vision of the future myopic. Rather, it is their inability to recognize one of the key tensions in their own liberal arsenal of beliefs: the tension between rights and values. While transhumanists speak of rights as things to be "defended," they also treat rights as unflappable rudders that enable the individual to remain steadfast in their personal convictions regardless of what society thinks. In terms of intellectual influences, Durkheim's is clearly not on their radar; the convictions of the rights-bearing individual trump the power, force, and values of the collective just about every time. Put differently, in the transhumanist worldview, man is not "double," as Durkheim decreed, but singular and sovereign. Indeed, this is one of the main premises put forth in Sandberg's comments; safeguarding rights such as morphological freedom is the key to avoiding cultural coercion.

This particular understanding of the relationship between individual rights and collective values may help explain why transhumanists can so easily frame their initiatives as part of an emancipatory project rather than view their efforts as a potentially coercive attempt at "normalization" (Foucault [1977] 1995). And yet, despite their own self-understandings, transhumanist initiatives are *not* just about liberating us through the promises of technology, they are also about establishing new standards of *technonormativity* that will have profound consequences for how subjects and societies will be disciplined and stratified in the future. Indeed, their initiatives raise critical questions about the role technologies will play in the production and reproduction of inequality. While gender scholars

have long deployed the concept of heteronormativity to highlight the complex of cultural, legal, and institutional practices that maintain normative assumptions about gender and perpetuate inequality between men and women, anthropologists of the future will have to consider how "the matrix" of technonormativity is reconfiguring assumptions about what it means to be a human, or rather, "a posthuman" who "measures up" (Butler 1990; Collins 2000).

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Decoding the Self

While they do not agree on the outcomes, transhumanists do agree that the pursuit of morphological freedom will have a profound influence on the nature of the self. For instance, reflecting on the potential impacts of paradise engineering, David Pearce anticipates that "old definitions of self and reality are likely to fall apart in unpredictable ways."[1] In her ruminations on mindcloning, Martine Rothblatt proposes that in the future it will be possible to preserve a unified self on a computational platform (Rothblatt 2014). Transhumanist James Hughes writes, "the transhumanist project of cognitive and biological enhancement … proposes not only many more years over which the ties of personal identity could attenuate, but radical changes to desire, memory, cognition, and identity will fundamentally challenge our presumptions of the self" (Hughes 2013, 229).

The self, like the body, has been an enduring topic of anthropologist interest.[2] In part, this is because the self or rather "self-awareness," as Alfred Irving Hallowell observed over sixty years ago, is a "generic human trait." In an essay entitled "The Self and Its Behavioral Environment," Hallowell elaborated on this feature of humanity:

One of the distinguishing features of human adjustment, as compared with that of animals lower in the evolutionary scale, rests upon the fact that the human adult, in the course of ontogenetic development, has learned to

discriminate himself as an object in a world of objects other than himself. Self-awareness is a psychological constant, one basic facet of human nature and of human personality. As one psychologist said, "… everyone, with the possible exception of infants, some philosophers, and some psychopaths, is aware of one's self." (Hallowell 1955, 75)

While Hallowell argued that the self is a universal feature of the human species, he was also keenly aware that conceptions of the self vary cross-culturally. Moreover, he argued that the ways they vary have profound implications for how people experience their lives and navigate their worlds. He proposed:

Just as people entertain various beliefs about the nature of the universe, they likewise differ in their ideas about the nature of the self. And just as we have discovered that notions about the nature of the beings and powers existent in the universe involve assumptions that are directly relevant to an understanding of the behavior of the individual in a given society, we must likewise assume that the individual's self-image and his interpretation of his own experience cannot be divorced from the concept of self that is characteristic of his society. (Hallowell 1955, 76)

Hallowell was particularly interested in conceptions of the self among the Ojibwa Indians, who, at the time of his research in the 1930s, lived along the Berens River, in the Lake Winnipeg Region of North America. He noted that "although there is no single term in Ojibwa speech that can be satisfactorily rendered into English as 'self,'… the Ojibwa Indian constantly identifies himself as a person" (Hallowell 1955, 172). For according to Hallowell, regardless of the different languages people speak, all cultures provide their members with "basic orientations" for distinguishing the self from others and for orientating themselves in relation to the larger world they inhabit.

This chapter builds upon a longstanding anthropological interest in the social construction of the self. Following Hallowell, I ask: how do transhumanists conceptualize the self? How do these conceptions stand to influence the behaviors and practices that transhumanists

engage in in their efforts to usher in an enhanced posthuman future? What do transhumanist conceptions of the self suggest about the culturally constituted behavioral environments that transhumanists currently operate in as well as those they envision for their posthuman descendants?

Transhumanist conceptions of the self have been tangentially addressed in previous chapters. However, in this chapter, I seek to provide a fuller understanding of the ways transhumanists conceive of the self. For although transhumanists do routinely operationalize an "informatics" model of the self (Farman 2014) (whether it be inspired by the computational or biological sciences), their pursuits of morphological freedom also suggest understandings of the self that are still embodied. In order to "flesh" out the features that animate transhumanist conceptions of the self, I once again begin by offering a counterpoint as an example. I return to Hallowell's analysis of "The Ojibwa Self and Its Behavioral Environment" and use it as a means to highlight what is distinctive about transhumanist conceptions of the self as well as identify features that are shared.

5.1 The Ojibwa Self and Its Behavioral Environment

Long before there was "an ontological turn" in cultural anthropology, Irving Hallowell developed the concept of "the culturally constituted behavioral environment" to emphasize the way human beings come to inhabit and navigate very different experiential worlds.[3] Human behavior, he argued, is not adequately explained or determined by the social organizations people belong to or by the physical environments in which they dwell. Human beings, unlike other animal species, exist in a cultural world and that world of meanings and assumptions fundamentally shapes their perception and experience of reality. If we want to understand people from other societies, and avoid our own ethnocentric biases, then we must take these culturally constituted behavioral environments seriously.

Decoding the Self

Hallowell brought this basic insight to bear on his study of The Ojibwa Indians, a hunting and gathering society that was undergoing significant cultural transformation as a by-product of their exposure to Christianity and other colonizing forces of Euro-American Society. Hallowell was interested in "virtually all aspects of Ojibwa culture," and his outpouring of publications on the Ojibwa have been described as "one of the most complete recordings of the changing way of life of a hunting-gathering population that is available in the ethnographic record" (Wallace 1980, 199). As another key figure of the Culture and Personality school, one of Hallowell's main interests was in exploring the articulations between Ojibwa culture and psychology. How did the culturally constituted behavioral environment of the Ojibwa influence the way the Ojibwa conceived of and experienced the self? Drawing upon research conducted over almost a ten-year period of time, Hallowell arrived at the following conclusions.

First, he noted that among the Ojibwa, "the essence" of the person or self, and the seat of "vitality, volition, sentience, memory and speech," is believed to reside in the "soul, which under certain circumstances may become detached from the body" and migrate to other places or bodies (Hallowell 1960, 15). Moreover, the Ojibwa believe that the soul is immortal. "The human self does not die; it continues in another place, after the body is buried in the grave" (Hallowell 1960, 17). While the Ojibwa posit that the essence of personhood resides in an eternal soul, "the body," as Hallowell observed, is also regarded as "intimately connected with the self, so intimately that physical possession of even a part of it is considered as endangering the self" (Hallowell 1960, 173). As such, in order to safeguard their well-being, the Ojibwa are careful to never leave clippings of hair or nails that might be seized by a sorcerer and used for malevolent purposes against them. Protecting the integrity of the body is therefore linked to larger Ojibwa efforts to pursue a good life. For the Ojibwa, "an attack on the body destroys the balance that should exist between the soul and body in order to realize the Good

Life, that is, life in terms of longevity, health and absence of misfortune" (Hallowell 1960, 173).

The migratory nature of the soul also has implications for how time and space become central to Ojibwa conceptions and experiences of the self. For among the Ojibwa, experiences that happen in different lifetimes, different bodies, or even in their dreams are regarded as just as pertinent to the self as experiences that occur in their immediate waking lives. Indeed, the Ojibwa will often proclaim that dream experiences are more important than experiences that occur during waking existence because it is typically in dreams that the Ojibwa encounter powerful beings *pawáganak* who have the potential to bestow blessings on them.

This points to one of the most important aspects to grasp about the Ojibwa self and its behavioral environment. The Ojibwa inhabit a world that is populated with "other-than-human" persons (Hallowell 1960). For the Ojibwa, personhood is not the sole domain of humanity but extends to various kinds of beings and objects in the world. Bears, for instance, are endowed with a soul and hence personhood. The Ojibwa believe they can communicate and even reason with bears. Likewise, thunder, wind, and the sun are not understood as "natural" objects but rather entities that fall into the category of "other-than-human" persons. As Hallowell explained:

To the Ojibwa, for example, *gizis* (day luminary, the sun) is not a natural object in our sense at all. Not only does their concept differ; the sun is a "person" of the other-than-human class. But more important still is the absence of the notion of the ordered regularity in movement that is inherent in our scientific outlook. The Ojibwa entertain no reasonable certainty that, in accordance with natural law, the sun will "rise" day after day…. We may infer that, to the Ojibwa, any regularity in the movements of the sun is of the same order as the habitual activities of human beings. There are certain expectations, of course, but, on occasion, there may be temporary deviations in behavior "caused" by other persons. Above all, any concept of *impersonal* "natural" forces is totally foreign to Ojibwa thought. (Hallowell 1960, 8)

Decoding the Self

Hallowell argued that for the Ojibwa, the question of causality always comes down to who did it or who caused it? "The nature of persons, is the focal point of Ojibwa ontology and the key to the psychological unity and dynamics of their world outlook" (Hallowell 1960, 18). Moreover, the most important criteria by which persons are distinguished and ranked in the Ojibwa behavioral environment is power:

The Ojibwa self is not oriented to a behavioral environment in which a distinction between human beings and supernatural beings is stressed. The fundamental differentiation of primary concern to the self is how other selves rank in order of *power*. "Is he more powerful than I, or am I more powerful than he?" This is a crucial question applying to all human beings as well as to the *pawáganak*. But the fundamental distinction is that while other Indians may be more powerful than I, any *pawagan* is more powerful than any Indian. (Hallowell 1955, 181)

According to the Ojibwa, powerful beings have the capacity to predict the future, they have greater than usual abilities to change their outward form while maintaining their identity, and they have the power to render inanimate objects animate. Moreover, these other-than-human persons can use their extraordinary powers for both benevolent and malevolent means. Thus, for the Ojibwa, establishing good social relations with these beings is the key to securing a better rather than worse existence. Hallowell writes, "The more deeply we penetrate the world view of the Ojibwa the more apparent it is that 'social relations' between human beings (*dnicindbek*) and other-than-human 'persons' are of cardinal significance" (Hallowell 1955, 3).

In order to receive blessings from powerful beings, and thereby become more powerful themselves, the Ojibwa draw upon practices and logics that sustain sociality among humans. By demonstrating respect and engaging in acts of reciprocity, they deepen bonds with powerful others who are regarded as central to their attempts to live a

good life. However, because the Ojibwa can never escape the possibility that some person or powerful being may wish them harm, they also live with a chronic sense of suspicion and mistrust. The psychological consequences of living in a world animated by powerful persons who wish both good and harm is that "the qualitative aspects of interpersonal relations become affectively charged with a characteristic sensitivity" (Hallowell 1955, 19). Thus, Hallowell posited that Ojibwa are not just motivated by the pursuit of the good life but also by the constant need to defend themselves against malevolence. Indeed, Hallowell proposed that acts of sharing and reciprocity among the Ojibwa are often attempts to protect one's self from the bad will of others and should not be viewed as evidence of a more intrinsically generous or "noble" people.

In sum, the Ojibwa self and behavioral environment is predicated upon the idea that the essence of personhood resides in the soul. The soul is immortal and can travel through time and space and manifest itself in various bodily forms. While the body is not essential to one's personhood, it is regarded as a conduit through which malevolent forces can injure a person, and therefore measures must be taken to police its boundaries and preserve its integrity. The Ojibwa behavioral environment is populated not only by humans but by a vast array of "other-than-human" persons who vary in terms of both the amount of power they possess and their intentions to either help or harm others. It is a world driven not by natural laws that are amenable to scientific inquiry but rather by personal forces. From the standpoint of the Ojibwa, somebody is always responsible for how events turn out. Thus, while the Ojibwa place tremendous importance on cultivating good relations with the other persons in their behavioral environment, they also live with a felt need to defend themselves against ill intentions and malevolence. For the Ojibwa, warding off the bad life is as much of a concern as pursuing a life that is good.

5.2 The Transhumanist Self and Its Behavioral Environment

5.2.1 Personhood Is in the Mind

Among transhumanists, the essence of personhood resides in the mind. How the mind has come to be constructed as the seat of personhood in modern Western Society is the subject of George Makari's fascinating book *Soul Machine: The Invention of the Modern Mind*. Makari traces the social, cultural, political and intellectual changes that displaced the soul from the center of Western understandings of personhood during the Enlightenment, and replaced it with the concept of the mind. This new way of conceiving of the person, Makari argues, was initially regarded as "radical" and even "scandalous." Indeed, much of his book reads like an illustration of Hallowell's point that conceptions of the self have a profound impact on the way people experience their lives. Makari writes:

Once modernity gave birth to the theory of an embodied mind, the implications were grave. If it wasn't the soul but rather a fallible mind that made men and women think, choose, and act as they did, then long-standing beliefs were erroneous. Convictions regarding, truth and illusion, innocence and guilt, health and illness, the rulers and the ruled, and the roles of the individual in society would need to change. Not surprisingly, therefore, from its inception this concept was considered scandalous. (Makari 2015, xiii)

Makari demonstrates that the mind was, and still is, very much rooted in a materialist ontology. The mind came to be understood as something that was embodied and dependent upon matter *within* human flesh. This meant, for instance, that to know the mind it was no longer adequate to consult ethicists or philosophers "but also physiologists, anatomists, and doctors" (Makari 2015, xiv). And yet, Makari also concludes that although modernity gave birth to the theory of an embodied mind, it "has never found a way to fully reconcile the complex triumvirate of body, soul, and mind. Instead, it has left us haunted, divided, with competing histories, values, and rationales that have been at odds ever since" (Makari 2015, xvi).

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Abou Farman makes some similar observations in his research on American Immortalists. The mind, he argues, is "an original product of secularization, one of many new concepts (self, person, personality, and the cluster of concepts glossed as consciousness) that tried to capture or explain the various aspects of what had been previously delineated by the soul" (Farman 2013, 747). Farman notes that immortalists explain the mind through recourse to a material substrate and more specifically through new developments in neuroscience. However, he also points out that their commitment to rationalism, which foregrounds conceptions of the human subject based on immaterial aspects such as reason, free will, feeling, and autonomy, has left them struggling with the question of where the real essence of personhood resides. In the context of the secular, he argues, there is a fundamental tension between the way the human is understood as a material and biological entity and as a juridical subject. Indeed, this is evidenced by the fact that the rights of a person, often outlast their physical presence. Like Makari, therefore, Farman also concludes that uncertainty still surrounds the relationship between mind, body, and brain and that despite its air of scientific certainty, "materialism's account of the relationship between brain activity, brain structure, and consciousness is very much a speculative matter" (Farman 2013, 751).

The idea that the essence of personhood resides in the mind as well as the uncertainty surrounding the mind, body, and brain relationship can both be gleaned in the immortality initiatives transhumanists pursue. For instance, in Rothblatt's account of mindcloning, the mind is clearly the essence of personhood, but the essence of the mind lies not so much in its material content but rather in the way this content is patterned.[4] She writes:

I believe that our self is a characteristic visualization of the world and pattern of responding to it, including our emotions. Because visions and patterns are really information, I think our selves can be expressed as faithfully in software as they are in our brains. We can clone ourselves in software without copying every single memory because we see ourselves as a pattern of awareness, feeling and response, not as an encyclopedia of memories. (Rothblatt 2011, xiii)

In the mind-uploading scenarios envisioned by transhumanist Keith Wiley, "pattern identity theory" again provides the impetus for creating substrate independent minds.[5] As he explains, pattern identity theory comes down to the idea that:

a person's identity (or anything's identity for that matter) is synonymous with the pattern of their structural material embedding and not with the material components themselves (thus, a chess position is identified by its piece-placement, and not by the wood or stone). Pattern identity claims that two brains which embed the same pattern identify the same mind-state. (Wiley 2014, 90)

Thus, at the very heart of the science of mindcloning is a powerful metaphor; the mind is like a chessboard, if we understand how the pieces are arranged and move, we can transfer them to another "board" and reproduce the game many times over, thereby ensuring its immortality. As Wiley writes, "when we speak of *transferring* a mind we are considering how it is located in space and how it can move from one spatial location to another (notionally from one brain to another, either of which might be physical or virtual)" (Wiley 2014, 6). Such scenarios thus suggest that like the Ojibwa, transhumanists also envision a future world in which the self will be immortal, separable from the original biological body, and capable of taking on different forms.

5.2.2 *The Embodied and Quantified Self*

Although transhumanists conceive of the mind as the seat of personhood, it would be remiss to suggest that the body has no place in their understanding of the self. For despite predictions about the increasingly "mind-centric" nature of posthuman society (Rothblatt 2014), like the Ojibwa, there are many ways in which transhumanists conceive of the physical body as integral to the self and the enhanced posthuman future they seek to create. Indeed, transhumanist concerns with maintaining

bodily health and integrity arguably go far beyond anything Hallowell chronicled among the Ojibwa. If the Ojibwa worry about body parts falling into the *wrong* hands, transhumanists are driven by a felt need to take their physical well-being into their *own* hands. For instance, transhumanist Ray Kurzweil, who is at the forefront of attempts to create ever more sophisticated forms of artificial intelligence, is widely known for his attempts to "aggressively reprogram his biochemistry" by adhering to a regime that involves the consumption of 250 supplements a day and half-dozen intravenous therapies each week. He also claims that he successfully cured himself of type 2 diabetes by bringing his "inventor" perspective to bear on the disease (Kurzweil 2005, 211). This is also to say that while the Ojibwa fear that body parts might be *used* by malevolent others to bring harm to them, for Kurzweil, the fear, or rather the battleground, is the body itself. He notes:

We consider the process of reversing and overcoming the dangerous progress of disease as a war. As in any war it is important to mobilize all the means of intelligence and weaponry that can be harnessed, throwing everything we have at the enemy. (Kurzweil 2005, 212)

Transhumanist, biogerontologist, and longevity researcher, Aubrey De Grey also promotes a multipronged approach of bodily discipline and technological intervention to stave off the aging process. While fasting provides one current route to achieving longevity, in the future, he believes that genetic modifications and the implementation of nanotechnologies to achieve molecular repair will enable our posthuman descendants to enjoy healthy and vital bodies for lifespans that lasts thousands of years.

Moreover, the explosion of fitbits, insulin monitors, automated calorie counters, and the vast array of other forms of wearable technology suggest that working to master and monitor the body is not just an interest of transhumanists but a mainstream preoccupation as well. Sociologist Deborah Lupton argues that this obsession with "self-tracking" and the use of digitized information "to conduct practices of selfhood and

embodiment" is reflective of a broader cultural preoccupation with "the quantified self." She writes, "While the quantified self overtly refers to using numbers as a means of monitoring and measuring elements of everyday life and embodiment, it can be interpreted more broadly as an ethos and apparatus of practices that has gathered momentum in this era of mobile and wearable digital devices and of increasingly sensor-saturated physical environment" (Lupton 2017, 3). Anthropologist Natasha Dow Schüll arrives at a similar conclusion in her research on wearable technologies. Schüll argues that the "new cultural convergence of sensor technology and self-care" that she calls "data-for-life" offers modern subjects a way to simultaneously "embrace and outsource the task of lifestyle management" (Schüll 2016).[6]

Such research suggests that the behavioral environment in which transhumanists and their posthuman descendants will ultimately dwell is likely to be increasingly dominated by data that can be systematically analyzed, broken down, and ultimately decoded to reveal the ever better "secrets" or rather the "science" of healthy living. If the Ojibwa are attuned to the ever-present dangers of malevolent forces, transhuman and posthuman selves will be attuned to an avalanche of numbers and information that they gather through various kinds of wearable or even embodied technologies.

This points to yet another difference between the culturally constituted behavioral environments of the Ojibwa and transhumanists. Whereas the Ojibwa live in a world governed by unpredictable personal forces, transhumanists live in a world of "natural laws." For transhumanists, mastery of the body, the self, and their surrounding environments is absolutely predicated upon one's ability to understand and manipulate impersonal forces. Whether it is a matter of hacking the genome, reverse engineering the brain, or developing the technology to render outer space inhabitable, transhumanists believe that adhering to a scientific outlook is essential if they are going to liberate our posthuman descendants from an otherwise cruel or at least disappointingly short-lived fate.

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This belief in the power of science has implications for both the psychology and sociality that animates the transhumanist behavioral environment. In contrast to the Ojibwa, transhumanists are more inclined toward optimism and self-confidence than suspicion and mistrust. As I discuss below, transhumanists do not discount the possibility that technological developments could bring about their own set of existential risks. However, for the most part, they are hopeful that science and technology will not only save the species but radically enhance it. Indeed, the "principles of perpetual progress" and "practical optimism" were enshrined in the Extropy Institute's founding declaration in the 1990s. And more recently, Max More has noted, "An optimistic flavor necessarily permeates transhumanism. Someone cannot believe that radical transformations of the human condition are both possible *and* desirable while also believing we are doomed to failure or disaster" (More 2013, 13).[7] Similarly, Kurzweil exudes such optimism when describing his life philosophy or rather "religion":

To this day, I remain convinced of this basic philosophy: no matter what quandaries we face – business problems, health issues, relationship difficulties, as well as the great scientific social, and cultural challenges of our time – there is an idea that can enable us to prevail. Furthermore, we can find that idea. And when we find it, we need to implement it. My life has been shaped by this imperative. The power of an idea – this is itself an idea… This, then, was the religion I was raised with: venerations for human creativity and the power of ideas. (Kurzweil 2005, 2)

Furthermore, if there is a dominant form of sociality that animates transhumanist attempts to realize the full power of science, technology, and "ideas," it is not so much reciprocity as it is competition. Although DIY "scrapheap" transhumanists are deeply committed to an ethic of sharing and open source technology, more libertarian-leaning transhumanists propose that competition is the best way to spawn scientific and technological progress. This celebration of market competition and "go-getter" confidence can be gleaned in the

fellowship program established in 2010 by the billionaire and libertarian transhumanist Peter Thiel. Originally named "20 under 20," the Thiel Fellowship recruits "the best and the brightest" under the age of 22 and it provides them with $100,000 stipend to pursue and develop their ideas and business ventures. In order to receive the award, recipients must drop out of college. The driving logic behind the fellowship is that "some ideas can't wait," that its "better to take on big risks instead of big debt," and that thinking for one's self instead of "following a traditional track" is the best way to succeed. Similarly, entrepreneur and engineer Peter Diamandis, who is also the cofounder of Singularity University and Human Longevity INC, established the "XPRIZE" as a way to recruit the best minds in technology. As described on the foundation's website:

XPRIZE is an innovation engine. A facilitator of exponential change. A catalyst for the benefit of humanity. *We believe in the power of competition.* That it's part of our DNA. Of humanity itself. That tapping into that indomitable spirit of competition brings about breakthroughs and solutions that once seemed unimaginable.[8] (italics mine)

5.2.3 *Extending Personhood in the Posthuman World*

While some transhumanists propose that conceptions of a unified self or person will be completely undone by future developments in neuroscience and by various forms of cognitive and biological enhancement, many transhumanists also argue that in the future, the category of personhood will need to be *extended* to a vast array of "other-than-human" beings. As Max More posits, "The utterly unique status of human beings has been superseded by an understanding that we are part of a spectrum of biological organisms and possible non-biological species of the future" (More 2013, 10). Thus, like the Ojibwa, transhumanists also envision a future behavioral environment in which personhood is no longer the sole domain of humans because advances in science and technology will make it possible to create not just mindclones but other forms of artificial

life or "species" who possess the central attributes of personhood: autonomy, volition, intelligence, reason, and feeling.

For instance, Martine Rothblatt cautions that living in a world populated with other-than-human persons is likely to bring about new forms of discrimination. Reflecting upon the future status and rights of mindclones, she remarks:

with the realization of human cyberconsciousness, with the nature to love and be loved, to communicate and establish close ties with others, mindclones will be smart enough to figure out that life has tremendous value-and natural and legal rights and protections are very handy … mindclones will agitate for the same rights as their biological analogues-as have slaves, serfs, women, and every other disenfranchised demographic in history. It is tough to overestimate how difficult this will be for our existing society to swallow … I think equal rights for virtual humans will be the great civil rights battle of our the twenty-first century. (Rothblatt 2014, 210–211)

The fact that Rothblatt holds a degree in law and is a highly regarded civil rights attorney is not incidental to this discussion. For although the mechanics of mindcloning have yet to be conquered, what Rothblatt effectively does in this passage is summon mindclones into the world of personhood by emphasizing their status as future juridical and legal subjects. In Farman's terms, her commitment to "rationalism," with its emphasis on reason, free will, feeling, and autonomy, leads her to argue that mindclones and other forms of "cyberconscious" life will be deserving of personhood even though the technology to create them has not yet fully "materialized." While some may be inclined to dismiss Rothblatt's remarks as a form of wild conjecture or speculation, it seems more appropriate to consider how her ability to frame imaginings of the future and *construct* rights-bearing subjects even before they have been technologically actualized might also play a pivotal role in ushering in a posthuman future. Indeed, long before providing this written defense of "virtual humans," on September 16, 2003, Rothblatt filed and argued a motion in a mock trial in the biocyberethics session at the International

Bar Association conference in which she aimed to "prevent a corporation from disconnecting a conscious computer" (Kurzweil 2005, 379). This motion, in turn, led Kurzweil to conclude that the path to a future where virtual humans are accorded full personhood will most likely first come through "litigation rather than legislation, as litigation often precipitates such transformations" (Kurzweil 2005, 379).

Transhumanist Zoltan Istvan holds similar views to Rothblatt. He was instrumental in drafting a "Transhumanist Bill of Rights" which clearly states that the bill is meant to extend rights not just to humans but also to "sentient artificial intelligences, cyborgs, and other advanced sapient life forms," including robots and "virtual persons" (Istvan 2018). James Hughes reiterates the issue, arguing for a "cyborg citizenship" approach to the rights of future other-than-human persons:

A central question of biopolitics will be what rights we should grant to the various kinds of beings we create with technology. The human-racists want to restrict rights to *Homo sapiens* 1.0, while transhumanists, like bioethicists and the democratic tradition itself, believe rights should be based on personhood. (Hughes 2004, 224)

Hughes notes that "all personhood theorists agree … that the basic threshold of citizenships is self-awareness and desire," and he predicts that in the future, this is likely to include "adult humans, posthumans (as the kind most of us would choose to become), uplifted animals, and possibly some future human-level machine minds" (Hughes 2004, 223). Indeed, the Institute of Ethics and Emerging Technologies, which was cofounded by Hughes, has developed a special program, directed by George Dvorsky, devoted to advocating for and protecting "The Rights of Nonhuman Persons."

Transhumanists not only propose that the category of personhood will be extended to an array of "other-than-human" beings in the future, they also propose that avatar technologies (many of which are already in frequent use) will enable posthumans to extend their personhood

across multiple virtual worlds. These experiences, moreover, will be just as germane to a person's sense of self as are experiences that occur in physical "reality." As transhumanist William Sims Bainbridge maintains, "individuals may have many different avatars, thereby becoming a *multiplex* or *protean personality*. Decades ago, psychiatrists described this as a multiple personality neurosis or some form of split personality … but in the future we may decide that the most effective mode of being is pluralism" (Bainbridge 2013, 91). Bainbridge argues that "under the right conditions an avatar in a virtual world can substantially enhance the abilities of the user – the person who own and operates it" (Bainbridge 2013, 91).

Similarly, transhumanist Daryl Nazareth anticipates that with the development of ever more sophisticated forms of AI, "computer-generated worlds will be replete with realistic virtual people, not just characters which follow some programmed script." He proposes that future virtual environments will "stir excitement, fear, pleasure, and joy just as surely as today's skydiving adventures or exotic travels – and even more so, because VR will offer an infinite number of storylines and characters who will be tailored to the individual player." He concludes, "I don't think many folks will consider that experience empty and meaningless" (Goertzel and Goertzel 2015, 154–155). Thus, if the Ojibwa believe that experiences in dreams provide them with access to powerful beings and have immediate relevance to the self, in the transumanist behavioral environment, experiences in virtual worlds are regarded as equally compelling and important. They stand to expand the spaces and "places" in which actions of the self become relevant to one's identity.

5.2.4 *The Power of Intelligence*

How will the array of persons who populate the posthuman future be distinguished from each other? Here again, we find some interesting similarities with the Ojibwa, as well as important differences. As

noted earlier, the Ojibwa behavioral environment is populated with "other-than-human" persons, and the key determination that renders these persons different from each other is how much power they have. Similarly, in the transhumanist behavioral environment, personhood is also extended to "other-than-human" persons; however, the key determination that is used to differentiate and rank these persons is intelligence. To paraphrase Hallowell, for transhumanists, "the crucial question applying to all human beings" as well as to other forms of life (artificial or otherwise), is: "Is he more intelligent than me, or am I more intelligent than he?"

Indeed, in the transhumanist worldview, intelligence *is* power; it is the central means by which humans and nonhumans are ranked and classified. It is regarded as the vital life force that makes things happen in the world, and it is also the telos, or rather, purpose of life. Spreading intelligence throughout the universe and ensuring the presence of intelligent life into the deep future is one of the common goals transhumanists share. Intelligence is thus both an absolutely central and also somewhat elusive category. If we are going to grasp how it animates the transhumanist worldview and behavioral environment, it requires some ethnographic unpacking.

As a means of ranking human beings, intelligence is everywhere in the behavioral environment of transhumanists. There is almost an unstated assumption that to be a transhumanist, one has to be smart, and being smart, in turn, is frequently associated with a very particular kind of hypertechie, hypermasculine, "I can see farther, faster, and more clearly than you" mentality. This way of assessing people can certainly be gleaned in the kind of fellowship "competitions" funded by Peter Thiel, where only 1 percent of all applicants receive funding. It also, however, can be gleaned in the ways transhumanists set themselves apart from "mainstream" society. Transhumanists, for instance, frequently belittle their "bioluddite" and "bioconservative" critics for being "sheepish," "unimaginative," and "timid." They ridicule them for "buying in" to

a "deathist culture" that views death as an inevitability instead of a problem that can be conquered or solved.

The emphasis on intelligence is also readily apparent in transhumanists' literary "presentations of self." To read the "manifestos" and polemical tomes of transhumanist authors is to be exposed to a veritable avalanche of quotes from the "greatest thinkers" of all time. Quotes from Nietzsche, Spinoza, Newton, Leibniz, Einstein, Aristotle, Shakespeare, Dubois, Dickens, Gandhi, and countless others are so prevalent in transhumanist writings that these voices sometimes drown out the author's and it is difficult to tell whose words are whose. This use of gratuitous citing initially struck me as a rather odd rhetorical strategy, but over time, I came to realize that it is one of the ways transhumanists both perform and legitimate their intelligence for a public audience. By constantly invoking the words of "wise men" (and they are almost always men), transhumanists not only demonstrate how widely read they are but they also create the sense that they rightfully belong in the company of these great thinkers.[9]

The view that transhumanists are particularly intelligent is also reinforced by the popular press. Many of the prominent figures in the American transhumanist movement are depicted as daring and brilliant visionaries whose ingenuity stands to significantly shape the future we will inherit. In fact, the very attributes the Ojibwa regard as "earmarks of power" – the capacity for metamorphosis, the ability to predict the future, and the ability to "make inanimate objects behave as if they were animate" are also taken to be signs of transhumanists' intelligence and thus power. Ray Kurzweil, for instance, is widely revered and respected for his abilities to predict the future and his attempts to make computer technologies behave as if they were alive. This has landed him a high-powered job working for Google as the Director of Engineering, specializing in artificial intelligence.

In addition to using intelligence to rank and assess human beings, transhumanists also use intelligence as a barometer when contemplating

the other-than-human-persons who will populate the future. When transhumanists look at the future, one of the key questions they ask is, what kind of intelligent life will there be? And where will humans or rather posthumans fall in the intelligence hierarchy? Over the last forty years, Kurzweil has been one of the most vocal commentators on the future of intelligent life, and because he writes for a popular audience, his work has provided one of the main channels through which the public has come to learn about transhumanist visions and aspirations. Through "best sellers" such as *The Age of Intelligent Machines, The Age of Spiritual Machines,* and *The Singularity Is Near*, Kurzweil has disseminated a vision of the future and "intelligence revolution," in which human beings will increasingly merge with machines, and advances in technology, largely coming from revolutions in genetics, nanotechnology, and robotics, will be so rapid and extreme that it will effectively lead to an overhaul of every aspect of human life. As Kurzweil puts it, "from sexuality to spirituality" "every aspect of … human life will be irreversibly transformed" (Kurzweil 2005, 7).

For Kurzweil, intelligence is simultaneously regarded as the product, the purpose, and the driving "force" of evolution. "Intelligence," he writes, "is the most powerful 'force' in the universe. Intelligence, if sufficiently advanced, is, well, smart enough to anticipate and overcome any obstacles that stand in its path" (Kurzweil 2005, 206). In a sweeping account of the evolution of all planetary life, which Kurzweil breaks down into six epochs, Kurzweil describes how human intelligence evolved from "patterns of matter and energy," to carbon-based compounds, to DNA-guided organisms, to beings endowed with neural networks capable of "rational and abstract" thought. "Evolution," he writes, "has been seen as a billion-year drama that led inexorably to its *grandest* creation: human intelligence" (Kurzweil 1999, 5).

Kurzweil argues that along with our opposable thumb, this intelligence is the decisive factor that has given us an evolutionary advantage over other animal species. It is also what will play the decisive role in the

future evolution of our species. If transhumanists like David Pearce view genes as the silent motor force of history, in Kurzweil's worldview, it is the somewhat nebulous entity known as intelligence that makes things happen in the world. Kurzweil argues that the "intelligence explosion" and the capacity of human beings to create ever more powerful forms of nonbiological intelligence will usher in the "5th epoch" of human history, and once "the Singularity" begins, human beings will merge with these nonbiological forms of intelligence and become immeasurably enhanced. However, unlike other transhumanists, Kurzweil does not argue that this will lead to a "posthuman" existence. For Kurzweil, the essence of being human is to be motivated by a continual desire for improvement, a belief that was encapsulated in the title of a 2011 documentary about Kurzweil aptly called "Transcendent Man." Thus, according to Kurzweil, merging with technology will not so much diminish our humanity as it will enhance it.[10] As he explains:

The Singularity will represent the culmination of the merger of our biological thinking and existence with our technology, resulting in a world that is still human but that transcends our biological roots. There will be no distinction, post-Singularity, between human and machine or between physical and virtual reality. If you wonder what will remain unequivocally human in such a world, it's simply this quality: ours is the species that inherently seeks to extend its physical and mental reach beyond current limitations. (Kurzweil 2005, 9)[11]

While Kurzweil argues that in the future there will be no distinction between humans and machines, as of now, at least, he does still recognize that humans and machines possess different kinds of intelligence. According to Kurzweil, the traditional strengths of human intelligence include things such as flexibility, creativity, and even a sense of humor. However, when compared with machine intelligence, Kurzweil notes that human intelligence is "dramatically suboptimal" (Kurzweil 2005, 227). According to Kurzweil, the problem with humans is that they are slow, they require lengthy processes such as learning in order to be able to

master new skills and concepts, and they cannot instantaneously transmit these skills to another, as a computer program can do. Furthermore, human beings fall short in terms of the amount of information they can store, retrieve, and process, and unlike computers, human beings do not always operate at "peak performance." For all of these reasons, Kurzweil argues that once machines achieve human-level intelligence, they will very quickly surpass what human beings are capable of, and as such, once the Singularity occurs, it will be necessary for human beings to augment themselves with "nonbiological" forms of intelligence just to navigate the world.

Moreover, within the transhumanist worldview, intelligence is something that *must* remain elusive in order for it to retain its "enchanting" and "magical" motivational power. As Kurzweil observes:

Computer scientist Elaine Rich defines AI as "the study of how to make computers do things which, at the moment, people are better." Rodney Brooks, director of the MIT AI Lab, puts it a different way: "Every time we figure out a piece of it, it stops being magical; we say, *Oh, that's just a computation.*" I am also reminded of Watson's remark to Sherlock Holmes, "I thought at first that you had done something clever, but I see that there was nothing in it after all." That has been our experience as AI scientists. The enchantment of intelligence seems to be reduced to "nothing" when we fully understand its methods. The mystery that is left is the intrigue inspired by the remaining, not as yet understood methods of intelligence. (Kurzweil 2005, 265–266)

In contrast to the Ojibwa, who seek to capture power and gain as much access to it as they can, transhumanists like Kurzweil require a perpetually frustrating object in their behavioral environment in order to activate their imagination and desire.

Finally, in Kurzweils' eschatology or rather cosmology, it is precisely the explosion of human and nonhuman intelligence that will pave the way for epoch 6. During this epoch, Kurzweil predicts, "the universe" will "wake up": "intelligence, derived from its biological origins in

human brains and its technological origins in human ingenuity, will …
infuse the rest of the universe … and the 'dumb' matter and mechanisms
of the universe will be transformed into exquisitely sublime forms of
intelligence" (Kurzweil 2005, 21).

5.2.5 *Benevolence or Malevolence?*

Not all transhumanists share Kurzweil's views on the impending
Singularity and the possibility of a future universe filled with "exquisitely
sublime forms of intelligence." Moreover, Kurzweil himself is quite aware
that the creation of artificial intelligence could also generate a "panoply
of existential risk" and "perils." However, what transhumanists *do* agree
upon is that the creation of artificial intelligence, or "superintelligence"
as Nick Bostrom refers to it, will have a dramatic impact on the future
behavioral environments in which our human/posthuman descendants
will dwell. Bostrom, for instance, begins his book, *Superintelligence:
Paths, Dangers, Strategies*, by pondering the following scenario:

If some day we build machine brains that surpass human brains in general
intelligence, then this new superintelligence could become very powerful.
And, as the fate of gorillas now depends more on us humans than on the
gorillas themselves, so the fate of our species would depend on the actions
of the machine superintelligence. (Bostrom 2015, v)

Paradoxically, therefore, transhumanist attempts to use science and
technology to engineer an enhanced posthuman future may give rise
to a behavioral environment which, like the Ojibwa's, is increasingly
animated by the whims and desires of powerful "personal" forces.
And this possibility, in turn, has prompted transhumanists to become
very concerned with the question of intentions. Will these other-than-
human persons benevolently contribute to the welfare of the future
posthuman species, or will they use their powers in malevolent ways
and pose serious dangers to those who are "dependent" upon them?

For instance, in reflecting upon the future development of an Artificial General Intelligence, transhumanist Daryl Nazareth remarks:

I can't extend unbridled optimism past the creation of AGI. We simply *don't know what will happen* once machines can reason and make decision like humans. I would prefer to think they will continue to function as our tools and comply with our commands. Or allow us to merge with them and thereby enhance ourselves. Ray Kurzweil points out that the rise of the machines shouldn't be dreaded: it won't be like a Martian invasion because *they* will be *our* creations. I suppose the question is not really how we should view the new AGI's, but rather *how will they view us*? (Goertzel and Goertzel 2015, 156)

Eliezer Yudkowsky, an artificial intelligence researcher who is widely known and read in transhumanist circles, is hopeful that with proper foresight and planning, we will be able to ensure that the development of artificial intelligence does not come at the expense of human beings. In a 278-page report written for the Machine Intelligence Research Institute, Yudkowsky explores the various "design features and cognitive architecture required to produce a benevolent – 'Friendly' – Artificial Intelligence" (Yudkowsky 2001). Other researchers hold out similar hopes that the superintelligence of the future will be benevolent. Francis Heylighen, one of the directors at the Global Brain Institute, argues that the superintelligence of the future "will not be centralized in a single AI system, but distributed across all people and artifacts and connected via the Internet." Describing this "global brain" he writes:

This *global brain* will function to tackle all challenges confronting the "global superorganism." Its capabilities will extend so far beyond our present abilities that they can perhaps best be conveyed as a pragmatic version of the "divine" attributes: *omniscience* (knowing everything needed to solve our problems), *omnipresence* (being available anywhere anytime), *omnipotence* (being able to provide any product or service in the most efficient way) and *omnibenevolence* (aiming at the greatest happiness for the greatest number). (Heylighen 2015, 243–244)

Heylighen argues that with the development of this global brain, it is likely that "all our individual and societal problems" will be solved, and human beings of the future will experience a "return to Eden" where they enjoy a "state of abundance and peace that supposedly existed before civilization" (Heylighen 2015, 244).

By contrast, over the last several years, Elon Musk, who doesn't consider himself a transhumanist, but who is influential among transhumanists nonetheless, has made headline news by issuing warnings about the potential dangers of AI. Sparking a controversy with other technophiles and captains of industry such as Mark Zuckerberg, Musk has compared the adoption of AI to "summing the devil" and he has warned that "AI is highly likely to destroy humans" in the future.[12] Castigating researchers in the field of artificial intelligence, Musk observes:

The biggest issue I see with so-called AI experts is that they think they know more than they do, and they think they are smarter than they actually are. … This tends to plague smart people. They define themselves by their intelligence and they don't like the idea that a machine could be way smarter than them, so they discount the idea – which is fundamentally flawed.[13]

Another existential risk involving superintelligence that transhumanists like Bostrom have contemplated is based on "the simulation hypothesis." This hypothesis is premised upon the idea that the reality we are living in is actually a simulation, controlled by more intelligent beings who are currently unknown to us and who could, at some point, decide "to shut us down." In contemplating the most productive way to deal with this risk, Kurzweil writes: "The best way we could avoid being shut down would be to be interesting to the observers of the simulation. Assuming that someone is actually paying attention to the simulation it's a fair assumption that it's less likely to be turned off when it's compelling than otherwise" (Kurzweil 2005, 404–405).

Kurzweil's proposed solution is interesting for many reasons, but here I will only note two. First, Kurzweil's response suggests that as

transhumanists come to entertain the possibility of a future behavioral environment populated with powerful, other-than-human persons, they may, like the Ojibwa, become increasingly concerned with how they can win the favor of these beings or enter into productive relationships with them. For the Ojibwa, as we saw, this involves engaging powerful beings through gestures of respect and reciprocity. For Kurzweil, it potentially involves "being interesting." Second, while there is still a strong current of technooptimism among transhumanists, these anticipated changes in the behavioral environment do seem to be impacting the psychology and outlook of transhumanists. Like the Ojibwa, transhumanists have become increasingly concerned with how to "defend" themselves against malevolent forces. Indeed, in a chapter devoted to exploring the promise and perils of genetics, nanotechnology, and robotics, Kurzweil devotes an entire section to "Preparing the Defenses." Posing the question "How can we secure the profound benefits of GNR while ameliorating its perils?" Kurzweil answers, "The most urgent recommendation is to *greatly increase our investment in defensive technologies*" (Kurzweil 2005, 422).

5.3 Conclusion: Selves and Similarities

In many ways, the Ojibwa people Irving Hallowell studied almost 100 years ago could not be more different than the technofuturists I have been focusing on throughout this book. Although the Ojibwa clearly exist under very different conditions today, at the time of Hallowell's research in the 1930s, they were a small, hunting and gathering society struggling to maintain their way of life amidst the rapidly encroaching powers of Christianity and Industrial capitalism. Their culture, according to Hallowell, was animated first and foremost by an appreciation and concern for the personal forces that dominate the world rather than the laws of nature and science that transhumanists hold so dear. As such, it would seem unlikely to find commonality between Ojibwa outlooks on the world and the behavioral environments in which they dwelled and

those of transhumanists today. And yet, one of the things that has always delighted me about the comparative study of humankind is that amidst the many attempts to highlight just how differently human beings can understand and experience the world, anthropologists often discover similarities that can surprise us in unexpected ways. This has been my experience comparing and contrasting Ojibwa conceptions of the self and behavioral environment with those of transhumanists.

As we have seen, the transhumanist self and behavioral environment is predicated upon the idea that the essence of personhood resides in the mind. The mind, like the Ojibwa conception of the soul, is regarded as potentially immortal, and with the proper technologies in place, can take on different bodily forms. This ability to take on different forms means that like the Ojibwa, actions deemed relevant to the transhuman or posthuman self will not be limited to one's immediate waking existence. Virtual reality, for instance, will expand the spaces and places in which selves will be able to extend their personhood, accrue new powers, and encounter others who have a bearing on their existence. While the essence of personhood resides in the mind, among transhumanists, the body is also regarded as integral to the well-being of the self. Indeed, both the Ojibwa and transhumanists define the good life in "terms of longevity, health, and absence of misfortune" (Hallowell 1955, 173).

Perhaps the most striking similarity, however, is that like the Ojibwa, transhumanists increasingly envision a behavioral environment where the category of personhood is extended to other-than-human persons. Transhumanists believe that developments in science and technology will give rise to a future that is populated by a new array of intelligent and powerful beings. Far from disenchanting and rationalizing the world, therefore, the transhumanist commitment to science and technology stands to create a behavioral environment that is once again, like the Ojibwa's, increasingly animated by personal rather than impersonal forces. This, in turn, seems to be giving rise to a psychology that is ever more concerned with defending against malevolent forces. For whether

it be among the Ojibwa, or transhumanists, when there is a perceived dependency on relationships with powerful others, the question of intentions cannot be ignored.

Another way of summarizing the main findings of this chapter, however, is to conclude by emphasizing that that which seems novel is not necessarily new and that which is new is not necessarily more valuable – this applies to both ethnographic and theoretical considerations. For not only is it clear that conceptions of the self among the twenty-first-century transhumanists bear some striking resemblances with people living in other times and places, it is also clear that the very issues and concepts that anthropologists foregrounded almost a century ago still have enduring relevance and wisdom to offer us. Long before there was an ontological turn in anthropology and anthropologists began to caution that people in other societies do not share the same assumptions about personhood and being that we do, Irving Hallowell made a powerful argument for taking the culturally constituted behavioral environments people exist in seriously. He also very persuasively demonstrated that in every human society, conceptions of the self are a key component of the way people makes sense of their lives and thus require anthropological attention. Both of these insights are just as germane today as they were almost a century ago. Therefore, instead of assuming that a posthuman future will require a posthuman anthropology, I want to end this chapter by proposing that there is something valuable to be gained by maintaining a kinship and a connection with the anthropological ancestors of our past. "Voicing the ancestors" of our discipline, rather than burying or forgetting them, will enrich our attempts to study and understand human beings living in the twenty-first century (Handler et al. 2017).[14]

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Rethinking Kinship Systems

The pursuit of morphological freedom not only stands to reconfigure conceptions of the self, it also stands to reconfigure the way transhumanists conceive of kinship. For instance, in a chapter entitled "Rethinking Kinship Systems," Martine Rothblatt proposes: "If our humanity comes from consciousness and its attendant emotional aspects, then mindclones also represent humanity. And after all, we create them, or give birth to them in a sense. This necessarily means a reassessment of kinship, of who we consider to be a relative" (Rothblatt 2014, 199).

Of all the topics that have animated the comparative study of humankind, kinship has arguably been one of the most defining and enduring. As Robin Fox puts it, "kinship is to anthropology … what the nude is to art" (Fox 1967, 10). In part, this is because for much of the discipline's history, anthropologists have focused on societies where kinship has provided the dominant framework for organizing social relations (Parkin and Stone 2006). Kinship has also remained an enduring topic of anthropological interest because it is both universal and particular. In all human societies, there is a system in place for determining who is "a relative" and yet the ways relatives are determined and *made* can vary significantly. As Janet Carsten aptly explains, "Conceived in the broadest sense, relatedness (or kinship) is simply about the ways in which people create similarity or difference between themselves and others" (Carsten 2004, 82). For instance, among the Malay people studied by Carsten, relatives are not necessarily linked by

ties of sexual procreation, they are made by living in the same house and eating from the same hearth (Carsten 2004, 40). "In certain Inuit groups," as Marshall Sahlins has observed, "people born on the same day are kin" (Sahlins 2011a, 5). Among the aboriginal tribes of Australia, identification with a shared totem provides the common bond for establishing kinship (Sharp 1939). For the Na of prerevolutionary China, the facts of biological paternity were regarded as "incidental" and all kinship ties were traced through the mother's line (Geertz 2008). Thus, when it comes to creating something called family, the human species demonstrate remarkable creativity, or as Ruth Benedict would put it, "plasticity."

In this chapter, I want to explore some of the ways transhumanists envision kinship in the posthuman future. How will attempts to usher in an enhanced posthuman future affect the ways that relatives are determined and made? What will the posthuman family look like? This chapter presents more of a challenge than previous ones, for despite Rothblatt's call for a "reassessment of kinship," the family is not a topic that inspires or commands much attention from transhumanists. The transhumanist celebration of individuality, autonomy, and freedom, as well as the fact that most transhumanists are unmarried males, means that considerations of kinship often fly under the transhumanist radar.[1] What follows, therefore, is an attempt to piece together some of the places and spaces in which transhumanists do foreground issues of "relatedness."

6.1 American Kinship in the Twentieth Century

As I have done in previous chapters, I want to begin this inquiry with a return to the past. In 1968, the anthropologist David Schneider published a highly influential study entitled *American Kinship: A Cultural Account.* The purpose of the study was "to describe the system of symbols and meanings of American kinship" (Schneider [1968] 1980, 8). Schneider wanted to lay bare the categories or "units" around which the American kinship system is organized and identify the meanings that govern

relations between relatives in the American family. The analysis, it is important to note, was not an attempt to explore how people actually live and experience kinship in their everyday lives, nor was it reminiscent of earlier anthropological approaches that primarily focused on how kinship "functions" to maintain social order (Evans-Pritchard 1940; Firth 1936; Fortes 1969; Radcliffe-Brown [1922] 1964, 1940, [1952] 1965). As Schneider emphasized, the study was intended as a "cultural account," it was an attempt to crack the symbolic code and unearth the cultural logics that animate kinship in American society.

The kind of analysis Schneider generated was very much a reflection of intellectual trends that were sweeping anthropology in the 1960s and 1970s. For a number of reasons, (some of the good), this variety of cultural analysis is no longer in vogue today. Moreover, as influential as Schneider's study was, it was also critiqued with an equally persuasive rigor and vigor (Collier and Yanagisako 1987; Shapiro 2017; Wallace 1969; Yanagisako 1978). And subsequently, Schneider himself issued a formidable critique of the way kinship has been mobilized in anthropological studies, arguing that kinship should not be treated as a distinct cultural system or a comparative cross-cultural category (Schneider 1972, [1968] 1980, 1984). That being said, anthropologists continue to be inspired by Schneider's work, and many recognize that Schneider's analysis played an important role in illuminating some of the central features of the Americans kinship system. As such, his essay provides a useful departure point for exploring how transhumanists like Rothblatt are "rethinking" or "reassessing" American kinship in the twenty-first century and beyond.

According to Schneider, in the America kinship system, relatives fall into two categories: people who are related to each other through blood ties, such as one's children, siblings, or cousins, and people who are related through marriage, such as one's in-laws. Blood relatives are bound to each other by their shared "biogenetic substance." The ties that bind blood relatives to each other are believed to be rooted in "nature,"

and they are regarded as immutable. Whereas one can have an ex-wife, ex-husband, or even an ex-father-in-law, blood ties cannot be severed, they are for life. For instance, even in cases of adoption, as Schneider noted, Americans will often express an urgency to discover their "real" biological parents. Blood relations are thus accorded "the highest value of all" (Schneider [1968] 1980, 63). While blood ties are regarded as "biogenetic" and hence unchangeable, Schneider also pointed out that new findings in science could recast understandings of kinship. "Kinship," he wrote, "is whatever the biogenetic relationship is. If science discovers new facts about the biogenetic relationship, then that is what kinship is and was all along, although it may not have been known at the time" (Schneider [1968] 1980, 23).

Alternatively, relatives related through marriage are bound by "the order of law" rather than "the order of nature." Schneider observed:

In sum, the cultural universe of relatives in American kinship is constructed of elements from two major cultural orders, the *order of nature* and the *order of law*. Relatives in *nature* share heredity. Relatives *in law* are bound only by law or custom, by the code for conduct, by the pattern for behavior. They are relatives by virtue of their *relationship*, not their biogenetic attributes. (Schneider [1968] 1980, 27)

In contrast to other societies where children are believed to be disproportionately influenced by the bodily substances of one or another parent, in the American kinship system, it is believed that a child inherits their biogenetic substance equally from both parents. As Schneider explained:

The blood relationship, as it is defined in American kinship, is formulated in concrete, biogenetic terms. Conception follows a single act of sexual intercourse between a man, as genitor, and a woman, as genetrix. At conception, one-half of the biogenetic substance of which the child is made is contributed by the genetrix, and one-half by the genitor. (Schneider [1968] 1980, 23)

Schneider thus proposed that the conjugal couple, composed of a male husband and female wife who engage in sexual intercourse for the purposes of producing offspring, is "a central symbol" of the American kinship system (Schneider [1968] 1980, 37). Whereas other societies recognize a plurality of sexual relationships, in American culture, Schneider argued, only one form is regarded as "legitimate": "Of all of the forms of sexuality which human beings are capable, only one is legitimate and proper according to the standards of American culture, and that is heterosexual relations, genital to genital, between man and wife" (Schneider [1968] 1980, 108). Moreover, when it comes to the gender binary that organizes the American kinship system, Schneider observed that genitals play the paramount role in determining one's identity. "In American culture," Schneider wrote, "the definition of what makes a person male or female is the kind of sexual organs he has" (Schneider [1968] 1980, 41).

Furthermore, in order for a sexual union and relationship to be considered legitimate, it must not only occur between a man and woman who are joined in marriage, it must also be viewed as an expression of love. Whereas in other societies men and women marry and procreate because it is considered a filial duty, in America, as the song famously puts it, "love and marriage go together like a horse and carriage." "Sexual intercourse," Schneider wrote, "is an act in which and through which love is expressed … and love is an explicit cultural symbol in American kinship … love is what American kinship is all about" (Schneider [1968] 1980, 38–40). Lastly, Schneider observed that in America, "The family, to be a family, must live together" (Schneider [1968] 1980, 33).

Clearly, American kinship has changed significantly since 1968 when Schneider first published this study. Many Americans no longer feel that "heterosexual relations, genital to genital between a man and wife," are the only legitimate form of sexual union. Nor is coresidence a cultural mandate, and clearly, gender identity is no longer viewed as reducible to one's sexual "organs." However, in other ways, Schneider's analysis does

still capture certain salient features of the ways Americans conceive of kinship. Most Americans would likely agree that family is about love and that "blood is thicker than water." However, the real enduring merit of Schneider's analysis stems from his basic insight that all kinship systems are "cultural constructs," that to conceive of kinship relations as rooted in "nature," "blood," or "biology" is just as much a symbolic elaboration as it is to conceive of kin as being bound together by identification with a shared totem, or to propose that people are kin because they are born on the same day. As Schneider explained at the conclusion of his essay, "So much of kinship and family in American culture is defined as being nature itself, required by nature, or directly determined by nature that it is quite difficult, often impossible, in fact, for Americans to see this as a set of cultural constructs and not the biological facts themselves" (Schneider [1968] 1980, 116).

6.2 Kinship in the Posthuman Future

6.2.1 *From the Biological to the Vitological: Making Digital Kin*

How do transhumanist views of kinship in the twenty-first century both diverge from and resonate with Schneider's findings? Perhaps the most significant difference is that when transhumanists like Martine Rothblatt peer into the future, they imagine a world not only populated by relatives who share a biogenetic substance but also a world filled with cyberconscious digital kin who will exist on a computational platform and share the same "informational architecture." As we have seen in previous chapters, in the transhumanist worldview, "nature" is understood as something to be transcended and improved upon with technology.[2] And according to Rothblatt, when it comes to kinship, the technology of mindcloning will do just that, it will open up a whole new world of digital kin for posthumans to enjoy and embrace.

Rothblatt is still an advocate of passing on our genes and producing and rearing biological flesh-based offspring; however, she proposes that

in the future, the biological mode of reproduction will be supplemented with the "vitological." Just as biology is the study of organic life, Rothblatt uses the term vitology to refer to the study of cybernetic life. Pushing the analogy further, she proposes that just as biological organisms are comprised of genes and DNA, our mindclones, or digital offspring, will be comprised of "bemes" and BNA (Bemen Neural Architecture). Describing bemes as "the cognitive analogue of genes," she explains:

Bemes are the basic informational unit of consciousness; the component building block of an informational architecture that provides coded instructions for mannerisms, personality, recollections, feelings, beliefs, attitudes, and values when expressed in a suitable medium such as the human brain or appropriate software and hardware. (Rothblatt 2014, 305)

In this imagined future, blood and genes are supplemented with information and bemes as the key substance that makes one a "real" relative. Indeed, Rothblatt goes as far as to argue that "in an Information Age society the beme is mightier than the gene. This means that transmissible units of character or existence are more important than genetic information" (Rothblatt 2008, 94). In what appears to be a striking reformulation of the notions of kinship Schneider documented, Rothblatt explains:

To say that "beme is mightier than the gene" is to disagree with the socio-cultural implication of "blood is thicker than water." Most people's strongest relationship, that with their spouse, or with a best friend, is not a blood relationship. On the other hand, bemes are not like mere water. A person builds up his or her bemes over time, and evolves them as appears most conducive to an enjoyable life. More apropos than "blood is thicker than water" is "minds are deeper than matter." That which we have spent time developing, like a relationship, is more valuable, and reliable, than that which just flows down to us and claims affinity based solely upon flesh. Indeed, our strongest relationships with even blood relatives are based upon our appreciation for their bemes, not their genes. (Rothblatt 2008, 94–95)

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For Rothblatt then, it is not a shared genetic commonality that "holds the greatest value" but rather it is bonds that are forged and maintained around shared interests, values, and "characters." In contrast to other societies where an adherence to custom and tradition *obligates* people to maintain kinship relationships regardless of personal feelings or interests, Rothblatt proposes that "a lasting interpersonal relationship is *only* possible if the two partners share a strong appreciation for each other's bemes – their characters, natures, and ideational units of existence" (Rothblatt 2008, 94).[3]

When it comes to reproduction, further differences abound between the ideas that underscored American kinship in the twentieth century and the ideas Rothblatt proposes will animate kinship in the posthuman future. Instead of requiring genital-to-genital sexual intercourse between a married male–female couple, Rothblatt proposes that mindclones will be "birthed" genetically by human beings who copy their mindfiles and bemes into the appropriate software device. This reproductive act will not lead to an autonomous offspring with its own identity. Rather, it will generate a copy of the genitor's self. She explains:

Moreover, the parents of a person creating a mindclone are also parents of the mindclone, because the mindclone and its creator have the same identity. They are the same person, albeit now dispersed across two platforms. Hence, if you love your son, you love his mindclone because they are one. (Rothblatt 2014, 198)

In this kinship system, one might say that procreation is replaced with asexual duplication, what might be glossed as a form of digital parthogenesis. Any individual with the technological savvy and desire would be capable of cloning himself/herself and experiencing life from two different platforms. In fact, Rothblatt proposes that the technology for digital cloning will develop much more quickly than genetic cloning. She writes:

Never mind about human cloning through genetic reproductive technology that supposedly creates a new "baby us" in a Petri dish, without the benefit

of old-fashioned procreation "techniques." Digital cloning will be here much faster and with few if any of the regulatory hindrances that currently prevent human genetic cloning from moving faster than a snail's pace. (Rothblatt 2014, 10)

While the making of mindclones *begins* with a genetically human biological being (and according to Rothblatt, this is what distinguishes mindclones and bemans from AI), Rothblatt proposes that in the future, it will also be possible for mindclones to reproduce with other mindclones and with the assistance of "software fertility doctors" create their own fully conscious digital offspring called "bemans." As she explains:

There will be software fertility doctors who specialize in creating new vitological life that is as unique as is every human being, and yet share bemes from two parents that are as telltale as our parent's genes in us. It will take years for this new vitological baby to mature into an adult. (Rothblatt 2014, 199)[4]

Rothblatt proposes that bemans will have their choice of virtual bodies, robotic bodies, or biological bodies generated through ectogenesis. She does not, however, specify what kind of environments beman babies will be raised in, nor does she explain why bemans would be born babies rather than created as already functioning and mature beman adults. While she sidesteps these issues, Rothblatt does insist that bemans, like mindclones and their biological genitors, should all be entitled to the same "marital and family rights":

Bemans will be every bit as much happiness-seeking as we are. They will be designed to share our psychology, and will be selected for doing so, because citizenship will be available only to those with humanlike consciousness. Since marriage and loyalty, albeit imperfectly and haphazardly, is what much of humanity does, that is what I would also expect of many if not most bemans. … In a nutshell, the most important reason to grant martial and family rights to bemans is because at least some of them will value those rights. The essence of dignity is to respect that which a person values. (Rothblatt 2014, 207)

Thus, while Rothblatt explicitly proposes that bemes, rather than genes or blood, will constitute "the substance" of kinship relationships in the future, she also elaborates a vision of kinship, whereas in the twentieth century, kinship relationships are forged through the "order of law." Rothblatt argues that because mindclones and bemans will be conscious and have feelings, they belong in "the family of man" (Rothblatt 2014, 198). And because they belong in the "family of man," they are entitled to the same rights, conduct, behavior, and customs that biological, flesh-based humans are.[5] Indeed, Rothblatt proposes that the production of bemans will result in a "broadening" of "the definition of our species that will in turn help guard against new forms of social cleavage or racism." She writes, "A reconceptualization from *homo sapiens* to *persona creates, from human to transbemans,* will help preempt nativist arguments that human rights are for humans" (Rothblatt 2008, 104–107).

Lastly, while conceptions of reproduction might be significantly changed in the digital kinship system that Rothblatt envisions, the power and importance of love still seems to be an animating principle or "core symbol" in conceptions of the posthuman family. Rothblatt repeatedly proposes that love is the glue that holds families together, and love is what will enable biological humans to recognize digital kin as one of their own and thereby treat them with dignity. As she optimistically forecasts, "I have no doubt that love will transcend substrate" (Rothblatt 2014, 200). Indeed, Rothblatt envisions a future where "interplatform" marriages and relationships will be able to thrive. In the event that one's biological spouse perishes, she explains, the marital relationship will continue with the spouse's immortal mindclone. Rothblatt reasons, "If it were flesh alone that made for happy pairings then half of all marriages would not end in divorce. Love is not locked in flesh" (Rothblatt 2014, 199). Such will be the case with other family relationships as well. As noted in earlier chapters, Rothblatt believes that mind cloning will make it possible for people to maintain loving relationships with their family members for a veritable eternity. As she states, "Unlike generations of my

past, I am confident that my potential to stay connected to my family and subsequent generations of relatives will be available and nearly endless" (Rothblatt 2014, 9).

6.2.2 Caring Companions: Robotic Kin

While Rothblatt proposes the emergence of cyberconscious digital kin will have profound implications for how the posthuman family is defined, other transhumanists suggest that the development of "social" or "companion" "humanoid" robots with advanced levels of artificial intelligence and abilities to read and interpret human cues may play a significant role in reconfiguring notions of relatedness. Unlike the mindclones and bemans described by Rothblatt, robotic kin would not be defined by a "shared informational architecture" but rather, they would be defined by their capacity for companionship and ability to exercise care. Indeed, in many societies, kin are made through acts of care; feeding, bathing, sharing, and spending time together are all means by which human beings "participate in each other's existence, and create what Marshall Sahlins argues is the essence of *all* kin relations no matter what culturally particular form they take; a 'mutuality of being.'" Echoing Janet Carsten, Sahlins observes that "kinsmen are people who 'participate intrinsically' in each other's existence…. They live each other's lives and die each other's deaths. To the extent that they lead common lives, they partake of each other's sufferings and joys, sharing one another's experiences even as they take responsibility for and feel the effects of each other's acts" (Sahlins 2011a, 2, 14).

The technology for creating social robots with a capacity for empathy and an ability to "partake in the sufferings and joys" of others is still a long way off, if not ultimately a fanciful endeavor. Nonetheless, it is a possibility that is actively entertained in the transhumanist technological imagination. For instance, in an article entitled "Westworld and the Human Connection with Our Future Companion Robots," self-professed

"transhumanist activist" B. J. Murphy, who is also affiliated with the robotics company BodAi, predicts:

It will only be a matter of time before you come across someone who you thought was human, but is, in all actuality, a humanoid robot. They might cater to you for certain things, they might become your friend, or your sexual partner. Hell, they might even someday become someone that you have romantic feelings for. n(Murphy 2016)

Similarly, Syd, a self-described "average science and tech geek," founded the transhumanist blog *Human Paragon* because he finds "transhumanism such a lucid and hopeful school of thought" and "always wanted to help spread the word somehow." He writes:

I got into transhumanism after reading Raymond Kurzweil's book *The Age of Spiritual Machines*, and I have always loved the Sci-Fi genre; especially *Star Trek* and other hard science fiction. I'm a PhD student who studies the impact of technologies on us as individuals and as a society. I spend a lot of time thinking about humanity and what our future will look like. Transhumanism gave me a lens through which to understand that future a little better and hope in a world that sometimes seems to be in a downward spiral.[6]

One of the topics Syd follows on his blog is the growing market for AI sex robots. He writes about the development of companies like RealDoll that are working to create sex robots that "do a good job of showing some human warmth" and that utilize software that "lets you fine-tune the personality traits of the doll until you have something specific to you." Neither B. J. nor Syd explicitly couch their discussion of companion robots within the larger framework of kinship, however, both of their "forecasts" reveal how transhumanists envision robotic technologies altering the ways people will experience relations and relatedness. In the posthuman future, the "mutuality of being" may indeed be extended to relations with robotic others and the capacity for service and care may become far more central to the project of family making than a concern with sexual reproduction or shared biogenetic substance.

The anthropologist Jennifer Robertson arrives at a similar conclusion in her research on the integration of humanoid robots into Japanese family life. Robertson has explored the central role that household humanoid robots are projected to play in "stabilizing core institutions like the family" in Japan. She notes that Japan accounts for "over half the world's share of industrial and operational robots, including humanoid household robots that are being developed to care for children and the elderly, to provide companionship, and to perform domestic tasks" (Robertson 2007, 372).[7] In Japan, she points out, humanoid robots are "regarded as and referred to as 'persons' – not 'as if' they were persons, but as persons … they are 'living' things within the Shinto universe" (Robertson 2007, 376–377). "It is as adopted members of a household," Robertson writes, "that humanoid robots are being conceived and marketed, and it is adopted members that household (or partner) robots are envisioned as securing the future of the traditional extended family" (Robertson 2007, 382). Thus, if Robertson's research is any indicator of the future, it too suggests that when it comes to family making in the posthuman future, the capacity for care and service may increasingly trump the significance of shared biogenetic substance.

6.2.3 *The New Biology of Kinship: Designer Babies and Selective Reproduction*

In other ways, however, transhumanists are profoundly concerned with the nature and quality of the biogenetic substance that define and link kin to each other. In the popular press, and in their own writings, transhumanists frequently spearhead discussions of "designer babies," genetic engineering, and selective reproduction. Far from abandoning the idea that kinship is rooted in biology, there is a sense in which transhumanists take this idea even more seriously than their twentieth-century predecessors and are increasingly looking "to science" to discover "new facts about the biogenetic relationship" and how technology can be

used to create the most genetically robust offspring possible (Schneider [1968] 1980, 23). Exploring this interest, therefore, also stands to teach us something about the way transhumanists envision kinship and family in the posthuman future.

Transhumanists recognize that there are potential hazards associated with genetically engineering human offspring; nonetheless, they are staunch proponents of such practices. They argue that the use of germline engineering and embryonic modification and selection will play a pivotal role in helping to eliminate disabling diseases from future generations and create children who are smarter, stronger, happier, and healthier. For instance, in a paper entitled "Human Genetic Enhancements: A Transhumanist Perspective," Nick Bostrom addresses some of the concerns regarding germline engineering. He writes:

The ability to select the genes of our children and to create so-called designer babies will, it is claimed, corrupt parents, who will come to view their children as mere products. We will begin to evaluate our offspring according to standards of quality control, and this will undermine the ethical ideal of unconditional acceptance of children, no matter what their abilities and traits. Are we really prepared to sacrifice on the altar of consumerism even those deep values that are embodied in traditional relationships between child and parents? Is the quest for perfection worth this cultural and moral cost? A transhumanist should not dismiss such concerns as irrelevant. Transhumanists recognize that the depicted outcome would be bad. We do not want parents to love and respect their children less. We do not want social prejudice against people with disabilities to get worse. The psychological and cultural effects of commodifying human nature are potentially important. (Bostrom 2003, 499)

While Bostrom acknowledges these concerns, he then goes on to suggest that these kinds of "dystopian scenarios" are just "speculations" and we might as easily speculate "that germ-line enhancements will lead to *more* love and parental dedication." "Some mothers and fathers," he writes, "might find it *easier* to love a child who, thanks to enhancements, is

bright, beautiful, healthy, and happy" (Bostrom 2003, 500 italics mine).[8] Here again, love is regarded as a key element of the posthuman family, however, in contrast to Rothblatt, who proposes that love transcends "substrate" and enables people to recognize those who are different as one of their own, Bostrom proposes that love can be augmented by technologies that work to erase signs of genetic otherness or difference.[9] Moreover, in Bostroms's account, the production of genetically robust offspring will not only increase love in the posthuman nuclear family, it will also have direct benefits for the production of a more robust society. As he comments, "Healthier, wittier, happier people may be able to reach new levels culturally" (Bostrom 2003, 502). Indeed, echoing many of the views we have encountered in previous chapters, Bostrom also proposes that changing our biology is essential in order to achieve personal and collective progress:

Transhumanism promotes the quest to develop further so that we can explore hitherto inaccessible realms of value. Technological enhancement of human organisms is a means that we ought to pursue to this end. There are limits to how much can be achieved by low-tech means such as education, philosophical contemplation, moral self-scrutiny and other such methods proposed by classical philosophers with perfectionist leanings, including Plato, Aristotle, and Nietzsche, or by means of creating a fairer and better society, as envisioned by social reformists such as Marx or Martin Luther King. This is not to denigrate what we can do with the tools we have today. Yet ultimately, transhumanists hope to go further. (Bostrom 2003, 494)

When transhumanists look into the future, they acknowledge that forms of biological reproduction are intimately tied to processes of social reproduction. For transhumanists and anthropologists alike, therefore, the family is not just a site of nurture and support, it is also an eminently political domain.[10] As Bostrom himself queries in his essay, what kinds of rights will and should parents have in deciding how to "design" their children? Will these proposed forms of genetic engineering compromise the autonomy and liberty of the fetus? If these reproductive technologies

become pervasive in society, how will it exacerbate or alleviate existing forms of inequality?

Bostrom, for instance, proposes that without the proper social policies in place to ensure ubiquitous access to technologies such as germline engineering, "we could even speculate about the members of the privileged stratum of society eventually enhancing themselves and their offspring to a point where the human species, for many practical purposes, splits into two or more species that have little in common except a shared evolutionary history" (Bostrom 2003, 508). On the other hand, he also suggests that using these technologies to eliminate genetic disorders such as Down's Syndrome may help "level the playing field" for children born in future generations. He writes:

the trajectory of human genetic enhancement may be one in which the first thing to happen is that the lot of the genetically worst-off is radically improved, through the elimination of diseases such as Tay Sachs, LeschNyhan, Downs Syndrome, and early-onset Alzheimer's disease. This would have a major leveling effect on inequalities, not primarily in the monetary sense, but with respect to the even more fundamental parameters of basic opportunities and quality of life. (Bostrom 2003, 509)

In his book *Redesigning Humans: Choosing Our Children's Genes,* Gregory Stock also explores the potential impacts that technologies such as germline engineering will have on future conceptions and constellations of the family. Stock is a well-known biophysicist and biotech entrepreneur who served as the former director of the Program on Medicine, Technology and Society at UCLA. Though he does not explicitly claim the mantle of transhumanism for himself, he travels in their company and shares many of the views that transhumanists advocate. Stock actively participates in transhumanist think tanks, such as the Lifeboat Foundation: Safeguarding Humanity, and he also publishes in transhumanist forums. As such, his writings provide another useful entry point for exploring how transhumanists imagine the posthuman family.

In Stock's writings as well, relatedness is very much defined and understood in terms of biogenetic substance. Indeed, Stock points out that the successful sequencing of the human genome has played a pivotal role in foregrounding the importance of biogenetic substance in understandings of kinship and relatedness. This pertains not just to relations among human beings but also to what human beings share biogenetically with other animal species. As he writes, "Cocooned in the new environments we have fashioned, we can easily forget our kinship to our animal ancestors, but roughly 98 percent of our gene sequences are the same as chimpanzee's, 85 percent are the same as a mouse's, and more than 50 percent of a fruit fly's genes have human homologues" (Stock 2002, 16). Stock thus provides a prime example of Schneider's insistence that "Kinship, is whatever the biogenetic relationship is. If science discovers new facts about the biogenetic relationship, then that is what kinship is and was all along, although it may not have been known at the time" (Stock 2002, 23). For instance, in elaborating on "the consequences of unraveling human biology," Stock contends, "Our growing ability to read the genetics of potential future children and make choices based on what we learn is but one way the genomics revolutions will challenge our sense of who we are, how we relate to one another, and what is important to us" (Stock 2002, 167).

While Stock foregrounds the way our shared biogenetic substance provides the basis for an interspecies "kinship," he is more concerned with the "very real" effects of biological diversity among human populations. He writes:

With the completion of the sequencing of the human genome, it has become fashionable to make a point of saying that we differ from one another in only 1 in 1,000 of our DNA bases. We are 99.9 percent the same as our fellow humans, whoever they may be. This statement is reassuring and politically correct, but misleading. We only have to look around us to see the extraordinary differences among us. Biological diversity is real. We come in a multitude

of shapes and sizes. We have distinct personalities and temperaments. We possess various talents and vulnerabilities. We draw much of this from our genetic constitutions. (Stock 2002, 189)

Stock thus anticipates that as we become ever more adept at discerning these genetic influences and determining how different genetic profiles shape us as human beings, parents will increasingly "want to select some attribute of their future baby: gender, adult height, hair color, or temperament" (Stock 2002, 58). This is also to say that in the posthuman future, "the gift of life," which is recognized in so many societies as the ultimate foundation for parental authority and the rationale for devoting one's self to one's parents, will no longer suffice. What will matter is giving the *right* gifts. As Stock suggests, "parents might see the single-cell embryo as a momentary opportunity to give their child gifts otherwise lost to him or her forever" (Stock 2002, 92).[11] Like Bostrom, Stock also cautions that all of this could increasingly subject the posthuman family to the "sway of consumer marketing"; however, he too remains an outspoken advocate of deploying these selective reproductive technologies.

Stock further anticipates that in the future, family life will be profoundly affected by the ability to genetically engineer offspring with longer life spans. He writes, "If the human lifespan doubled … Virtually every aspect of society would shift: patterns of education, work, and marriage, relationships between parents and children, attitudes about social investment and responsibility, the flow of wealth and opportunity from one generation to the next" (Stock 2002, 86). While he concedes that such changes could end up exacerbating intergenerational conflict, he proposes that engineering offspring with "longer and more vital lifespans" would more likely be beneficial. He observes:

The benefits to society of extending our vital years are as clear as the burdens of prolonging our decrepitude. We require decades of education and experience to learn to handle ourselves effectively in the world, but we tire and fade all too quickly. Added years of health would lessen this drain.

If youth is wasted on the young, then why not see what the old can do with it? The result would undoubtedly be good for the individual, the family, and society. (Stock 2002, 96)

Lastly, according to Stock, one of the most dramatic impacts new reproductive technologies will have on the family is that conception will increasingly become divorced from sexual intercourse. While sexual intercourse between the conjugal couple was an absolute staple of the twentieth-century American kinship system described by Schneider, Stock anticipates that in the twenty-first century, "people may view sex as essentially recreational, and conception as something best done in a laboratory" (Stock 2002, 55).

6.2.4 *The Post-kinship Society*

The idea that new reproductive technologies will emancipate procreation from the act of sexual intercourse is promoted by many other transhumanists as well. For instance, Zoltan Istvan is an outspoken transhumanist activist who ran for president of the United States in 2016 as the official nominee of the Transhumanist Party. His presidential campaign involved driving cross-country on an "immortality bus" designed to look like a coffin. As the father of two, Istvan has given considerable thought to what the family might look like in the posthuman future and he has published a series of articles devoted to this topic, variously focusing on the potential impacts of genetic engineering to "restricting human breeding" by having parents qualify for a "license" before being allowed to procreate.[12] In a 2014 article, he writes:

IVG (in vitro gamtogenesis) won't only upend traditional procreation – it'll encourage those who use it to embrace "test-tube baby" and genetic-editing technologies. If conception is created in a lab to start with, why not control other potentially problematic issues while you're at it? IVG will give us ample opportunity to scan for diseases and only pick the best, most healthy embryos we create. (Istvan 2014a)

Istvan predicts that new reproductive technologies will free women from the tyranny of their "biological clocks" and radically delay the point at which women begin to start families. As he explains, "genetic editing combined with stem-cell technology will likely make it safer for a 50-year-old woman to have a baby in 2028 than for a 25-year-old woman in 2018. In two decades' time, healthy 75-year-old women could be starting new families once more." In fact, Istvan further predicts that the development of new reproductive technologies might eventually obviate the need for human relationships altogether. As he continues:

Scientists are working on this by converting skin cells into stem cells, which are cells that can turn into other types of cells. They can then turn these stem cells into women's eggs. This technology could allow a woman to have tens of thousands of eggs instead of just that 300 to 500, all from a cotton swab swiped inside the cheek. These stem-cell-conceived eggs can then be mixed with sperm of one's choosing to create viable embryos, which then are implanted back into the uterus. This process – already trialed in mice – has become known as "in vitro gametogenesis" or IVG. But if you thought turning skin flakes into ova was controversial, here's the kicker: Skin cells can *also* be turned into sperm. In this way, a single human may soon be able to create its own offspring without a partner. *This could eventually lead to a society where relationships, sexual or otherwise, are not functionally necessary to continue the human species*. (Istvan 2014a, italics mine)

In a certain sense, therefore, it might be argued that for Istvan, the posthuman society will simultaneously be a postkinship society – a society that perpetuates itself without any "need" for "the mutuality of being" that Sahlins argues is the crux of kin relations everywhere.

Indeed, Istvan suggests as much when he speculates upon what the future might look like once we "transcend our biology." In an article entitled "Should Transhumanists have Children?" he writes:

If we transcend our biology completely, does this mean we won't have incentive to procreate? Will human beings living exclusively in computers

really drop certain rituals that stem from millions of years of evolution? The likely answer is *yes*. Over time, we'll probably program the desire for progeny out of ourselves. Procreation in the sense we know it – along with sex – will likely become obsolete. Indeed, even the concepts of male and female will probably disappear unless a reasonable purpose inside the digital frontier is found for either … Digital environments will likely become the playgrounds of personal egos and their wills, where self-centered domination of perspective and experience are paramount. (Istvan 2014b)

Istvan thus entertains the possibility that kinship will become a relic of the human past. Instead of partaking in "each other's sufferings and joys" and "sharing one another's experiences" (Sahlins 2011a, 2), in his envisioning of the posthuman future, society will be populated with self-centered subjects who will be primarily invested in "their personal egos and wills."[13]

6.2.5 *Life without Fathers, Mothers, Husbands, or Wives: Family in the Postgender Society*

While Istvan entertains the possibility of a postkinship society, other transhumanists argue that kinship will endure but it will be radically transformed with the ushering in of a "postgender society." As George Dvorsky and James Hughes explain, "Postgenderism is an extrapolation of the ways that technology is eroding the biological, psychological and social role of gender, and an argument for why the erosion of binary gender will be liberatory" (Dvorsky and Hughes 2008, 2). Thus, whereas the twentieth-century American family was organized around a deeply entrenched gender binary with the male–female conjugal couple at its core, transhumanist advocates of the postgender society seek to dismantle that binary. They propose that living in a society organized around a strict gender binary, or what Martine Rothblatt refers to as "the apartheid of sex," is detrimental to the individual and society and prevents the

full flowering of human expression. Advocates of the postgender society argue that gender and sexuality need to be conceived as a "continuum" rather than "duality." As Rothblatt puts it:

We are not our genitals …. sexual *identity*, like nationality, is cultural and not genetic. The *expression* of sexual identity is called gender. The final liberation of humanity from its animal past requires the replacement of a black/white apartheid of sex, imposed at birth, with a rainbow spectrum of gender selected at will. The victory of continuism over duality means that people must be as free to choose and change their gender as they choose and change any other aspect of their self-expression. (Rothblatt 2011, 15)

Dvorsky and Hughes agree that "we are not our genitals" and that a postgender society will be predicated upon a much greater gender fluidity where people are able to choose what gender identity they want to express. "Postgenderists," they explain, "do not call for the end of all gender traits, or universal androgyny, but rather that those traits become a matter of choice" (Dvorsky and Hughes 2008, 2). However, *unlike* Rothblatt, they also argue that there is a biological basis to gender identity and that dismantling the gender binary will require attacking our biology. They propose:

Efforts to ameliorate patriarchy and the disabilities of binary gender through social, educational, political and economic reform can only achieve so much so long as the material basis, biological gendering of the body, brain and reproduction, remains fixed. Postgenderism confronts the limits of a social constructionist account of gender and sexuality, and proposes that the transcending of gender by social and political means is now being complemented and completed by technological means.(Dvorsky and Hughes 2008, 2)

In this formulation, gender identity is not so much a matter of anatomy as it is brain chemistry. Although sexual organs do not define one as male or female, Dvorsky and Hughes do argue that the brain itself is gendered in different ways. As they further explain:

Patriarchal culture contributes to differences in boys' and girls' educational access, career aspirations, and the wage and social status advantage that men enjoy in employment in most (if not all) industrialized nations. But some degree of gendered occupational stratification is also the inevitable result of the greater burden of childbearing on women, and the different abilities and aspirations coded in the gendered brain …. socialization does not explain all the differences between male and female cognition, emotion and behavior. (Dvorsky and Hughes 2008, 3, 5)

For Dvorsky and Hughes, dismantling the gender binary will not only involve tweaking our brain chemistry, it will also require utilizing new reproductive technologies. Like Istvan and Stock, they also envision a future where conception will increasingly be liberated from sexual intercourse; where multiple genitors might contribute to an offspring; and where gestation will occur in artificial wombs. They write, "Assisted reproduction will make it possible for individuals of any sex to reproduce in any combinations they choose, with or without "mothers" and "fathers," and artificial wombs will make biological wombs unnecessary for reproduction (Dvorsky and Hughes 2008, 2). This will further impact the contours and constellations of the posthuman family. Instead of being organized around the married, male–female conjugal couple, Dvorsky and Hughes envision a future where "cohousing and coparenting 'civil union' contracts … replace civil marriage." "Those contracts," they write, "would recognize the bonds between small groups of people who have made commitments of some duration. The erosion of dyadic marriage will, in turn, help to erode the gender binary" (Dvorsky and Hughes 2008, 9).

   Moreover, according to Dvorsky and Hughes, "the liberation from dyadic, gendered, heteronormative relationships will likely come about through the use of drugs that suppress pair-bonding impulses" (Dvorsky and Hughes 2008, 9). They propose that in the future, advances in neuroscience, neurochemistry, and pharmacology will become integral to people's attempts to pursue "a polyamorous

lifestyle," or alternatively, successfully couple in a monogamous relationship. Drawing inspiration from research on voles, they explain:

Research with voles has found that genes regulating the neurotransmitter vasopression determine whether male voles will be monogamous or polygamous. Voles with low vasopressin make weak associations between the dopaminergic pleasures of sex and the sight and smell of a particular female, while stronger genes for vasosuppressin entrains the vole to his female mate. If similar mechanisms are discovered in the human brain we could eventually have therapies that would allow individuals to turn their pair bonding up or down to a desired level. Some might increase it to block out a wandering eye, while other will turn it down to enable a polyamorous life style. (Dvorsky and Hughes 2008, 9)

Thus, while monogamous marriage will be increasingly displaced in the kinship system that Dvorsky and Hughes envision, it will still be an option. In fact, they propose that the conjugal love so central to twentieth-century conceptions of kinship might be readily enhanced through the use "psychopharmacological rebonding therapies." They predict:

There will be no more necessity for flagging affection, sexual boredom or a wandering eye between long term partners. Eventually we will be able to directly stimulate the parts of the brain that desire specific partners or kinds of experience. We will be able to wire ourselves only to desire sex with the opposite sex, only with our spouse, to only desire specific sex acts, and to desire it according to an agreed upon frequency. (Dvorsky and Hughes 2008, 12)

Dvorsky and Hughes thus suggest that in the future, kinship will be as much a matter of biochemistry as it is a matter of biogenetic substance. Our abilities to invest ourselves in the lives of others and establish a "mutuality of being" may increasingly be achieved by engineering chemical processes in the brain.

6.3 Conclusion: Critiquing Kinship

In many respects, transhumanist conceptions of the posthuman family can be read as a critique of the cultural logics that animated American kinship in the twentieth century. Albeit in different ways, transhumanists such as Martine Rothblatt, Zoltan Istvan, George Dvorsky, and James Hughes, each suggest that we can and should use technology to radically reform the family in the centuries to come. Rothblatt, for instance, argues that the technology of mind cloning will require expanding the realm of possible kin or "reassessing" "who we consider to be a relative." In her envisioning of the posthuman future, vitological reproduction and offspring will be just as deserving of admission to "the human family" as are offspring conceived through biological means. Moreover, all of these visionaries imagine a future in which the reproductive process itself will be significantly transformed. Transhumanists propose that IVF technologies and the development of artificial wombs will "emancipate" conception from the act of sexual intercourse and play a pivotal role in dismantling the gender binary that was so central to twentieth-century conceptions of the American family. Instead of being structured around the male–female, married conjugal couple, Dvorsky and Hughes predict that the posthuman, or postgender family, may take shape around a group of gender fluid individuals who are bound by a civil contract and committed to rearing children together. Lastly, all of these transhumanists share the conviction that while biogenetic substance is still important in defining kinship, it should not be treated as something that is immutable. Instead, it should be regarded as something that is *improvable.* Transhumanists are profoundly committed to the idea that the "gift of life" is not enough, parents can and should use technology to purposively create the most genetically robust offspring possible, imbued with the *right* gifts to give them a leg up in life.

If transhumanists have played a central role in critiquing twentieth-century conceptions of the American kinship system, anthropologists

have also added to the conversation by critiquing the way kinship has been deployed as an analytic category. Given the organization of this chapter, it is notably ironic that one of the most forceful critiques was issued by none other than David Schneider himself. Sixteen years after the publication of his seminal work, *American Kinship: A Cultural Account*, Schneider published another influential book entitled *A Critique of the Study of Kinship*.[14] "The primary objective of this book," he wrote, was to provide "a critical examination of the presuppositions that are part of the study of kinship and the whole idea of 'kinship' as it has been pursued by anthropologists" (Schneider 1984, x). In this work, Schneider set out to demonstrate that the "theoretical apparatus" through which so many twentieth-century anthropologists "had translated their field materials" had "led them to false conclusions" (Schneider 1984, 5). He argued that instead of treating kinship as an ethnographic category to be unpacked and discovered in each particular culture, anthropologists were guilty of imposing their own analytic distinctions onto the societies they studied with ultimately distorting effects. Kinship, along with economics, politics, and religion, was routinely treated as one of the four "distinct" institutions around which societies are organized. Yet, as Schneider pointed out, this way of parsing social life was based more on analytical fiction than empirical fact. Anthropologists doing fieldwork in different parts of the world quickly discovered that, "All of these institutions are inextricably interrelated and intertwined so that in any particular case they cannot be distinguished" (Schneider 1984, 197).

While this led Schneider to conclude that kinship "does not exist in any culture known to man," it did not deter subsequent anthropologists from attempting to document and understand the variety of ways that kin are conceived and made in different societies. In fact, rather than putting an end to such efforts, one could argue that Schneider's critique, along with rapidly changing reproductive technologies and the increase in LGBT families, has reinvigorated the study of kinship in the twenty-first century and has given rise to what is often referred to as "The New

Kinship Studies."[15] Thus, despite anthropological critiques and despite some suggestion from transhumanists that we are heading toward a postkinship society, it seems far more likely that kinship will continue to be a useful and valued part of both human social life and anthropological inquiry well into the future.

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From Original Affluence to Posthuman Abundance

It is not only kinship systems that stand to be radically transformed in the posthuman future but economic systems as well. In every human society, there is a system in place to regulate the production, distribution, and consumption of goods and services; this is precisely why "the economy" has been of enduring interest to cultural anthropologists. Moreover, as is the case with kinship, the ways economic systems are organized and the logics that animate their functioning can vary dramatically. For instance, in some societies, production is geared toward meeting subsistence needs rather than generating profits, and goods are procured through the exchange of gifts among kin rather than by purchasing commodities from the marketplace. In contemporary American capitalist society, where the profit motive renders the consumer "king," anyone with the requisite purchasing power is capable of buying the commodities of their choice. In Feudal Europe, by contrast, where there was a marked concern with upholding the inherited social hierarchy, sumptuary laws restricted the consumption of certain luxury items to members of the aristocracy.

Significant differences can also be found in the realm of production. For most of human history, goods were produced without the use of intensive machinery, but today the global economy is structured around a host of new technologies – informatic, digital, and financial – that are contributing to the dematerialization of the production process and the ever-expanding reach of capitalism. Given the fact that the economy

can be organized in manifold ways and toward various ends, how do transhumanists envision the economy of the future?

Many transhumanists are optimistic when they consider this question. They argue that developments in science and technology, as well as new ways of doing business, will make it possible for our future descendants to enjoy not just a "postscarcity" society but a society of "radical abundance" (Drexler 2013). Other transhumanists, however, argue that without the proper social and political interventions to ensure equal access to the fruits of technology, inequality and social strife will be exacerbated rather than eliminated by the rapid changes in our mode of production (Hughes 2004; LaGrandeur and Hughes 2017). Thus, when it comes to deliberating on the economic organization of posthuman society, transhumanists "rarely speak with one voice" and their varying responses reflect more significant ideological differences and tensions within the movement (Escobar 1992, 421).

In this chapter, I explore the varied ways transhumanists conceive of the economy of the future. What are some of the ways transhumanists seek to eliminate the problem of scarcity? What kinds of assumptions and values guide their efforts to do so? What kinds of social arrangements might a "postscarcity" society be predicated upon? And how do transhumanist conceptions of radical abundance compare and contrast with the way human beings living in other times and places have conceived of an affluent life? As I have done in previous chapters, I want to begin by returning to yet another seminal essay within the history of cultural anthropology – Marshall Sahlins' "The Original Affluent Society."

7.1 Affluence without Abundance

Originally published in French in 1968 and reprinted in English in 1972 as part of a larger volume entitled *Stone Age Economics*, "The Original Affluent Society" is arguably one of the most famous anthropological essays of the twentieth century. Its continued relevance, in large part,

derives from its polemical ambition: to demonstrate that the models and assumptions that underwrite "orthodox Economics, especially the 'microeconomics' taken as universally valid" cannot be applied to understand nonmarket "primitive" societies (Sahlins 1972, xi). Put differently, early on in his career, Marshall Sahlins argued that Western economic models and theories were ethnocentric, and in order to properly understand peoples living in other times and places, they would need to be supplanted with a "culturalist study that as a matter of principle does honor to different societies for what they are" (Sahlins 1972, xii). His essay, "The Original Affluent Society," was thus part of a larger attempt to "perpetuate the possibility of an anthropological economics" by offering "a few concrete examples" (Sahlins 1972, xii).

The example he explored in "The Original Affluent Society" was based on a rereading of the anthropological and colonialist literature on hunter-gatherer societies. Sahlins argued that much of the literature on hunter-gatherer peoples perpetuated a gross "misconception." They depicted the lives of hunter-gatherers as one of constant toil and struggle, haunted by the looming threat of scarcity. In reexamining the available data on such societies, Sahlins, by contrast, argued that if properly understood, hunter-gatherer societies were the "original affluent society." Though they may not have enjoyed an objectively high standard of living and though they did occasionally endure periods of drought and hardship, with few wants and adequate means in place to ensure the satisfaction of their needs, they were typically able to live a life organized around economic security rather than scarcity. Instead of working to accrue wealth, Sahlins proposed it was more apt to conceive of the hunter-gatherer as "going into business" for their "health" (Sahlins 1972, 5). Sahlins explained:

For there are two possible courses to affluence. Wants may be "easily satisfied" either by producing much or desiring little. The familiar conception, the Galbraithean way, makes assumptions peculiarly appropriate to market economies: that man's wants are great, not to say infinite, whereas his means

are limited, although improvable: thus the gap between means and ends can be narrowed by industrial productivity, at least to the point that "urgent goods" become plentiful. But there is also a Zen road to affluence, departing from premises somewhat different from our own: that human material wants are finite and few, and technical means unchanging but on the whole adequate. Adopting the Zen strategy, a people can enjoy an unparalleled material plenty – with a low standard of living. ... That, I think, describes the hunters. (Sahlins 1972, 1–2)

In adopting the "Zen road to affluence," Sahlins argued that hunter-gatherers enjoyed a "kind of material plenty" made possible by "the ease of production," the "simplicity of technology," "the democracy of property," and the centrality of reciprocity and sharing among members of the band (Sahlins 1972, 10). Given their small populations and nomadic lifestyle, they strove for affluence without abundance, for an accumulation of surplus goods would have impeded their ability to move and exploit new environments and resources necessary for their survival. Moreover, Sahlins argued that huntergathers enjoyed more leisure time and a more flexible work schedule than do contemporary laborers in the United States. Other notable features of such societies included their relatively low division of labor and strikingly egalitarian nature. Without the institution of private property and little economic surplus to command, members of hunter-gatherer societies found themselves on a level playing field rather than ensconced in highly stratified social and political hierarchies.

While Sahlins used his essay to debunk widespread misconceptions of hunter-gatherer societies, he also used it as a way to challenge dominant narratives of economic "progress" in industrial market societies. Such narratives can be traced back at least to the days of Scottish moral philosopher and political economist, Adam Smith. In 1776, in his book, entitled *The Wealth of Nations*, Smith famously proposed that an increase in productivity made possible through a more complex division of labor would increase the wealth of nations and improve the standard of living for all, creating what he called a "general opulence"

(albeit one that was still unevenly distributed). Smith, who was an early advocate of free-market policies and famously coined the phrase "the invisible hand," has had a lasting influence on economists advocating free-market capitalism, and in many ways, he set the precedent for using economic indicators such as GDP or GNP to measure the economic vitality of nations.

Sahlins, however, argued that despite a tremendous increase in productivity, made possible by developments in technology as well as the division of labor, it is in contemporary industrial society that scarcity has become institutionalized on a mass level. Although we produce more wealth and goods than ever before in the history of the planet, without access to the means of production, human beings dependent upon wage labor find themselves struggling and toiling to make ends meet on a daily basis. With little savings in their bank accounts, if they lose their job or cannot find a job that provides adequate pay, they can no longer access the necessities of life. Thus, in contrast to the relative security enjoyed by hunter-gatherers who had ready access to the means of production, in modern society, people live much more economically precarious lives. As Sahlins observed, "And, what about the world today? One-third to one-half of humanity are said to go to bed hungry every night … *This* is the era of hunger unprecedented. Now, in the time of the greatest technical power, is starvation an institution" (Sahlins 1972, 36). Explaining this development, he continued:

The evolution of the economy has known, then two contradictory movements: Enriching but at the same time impoverishing, appropriating in relation to nature but expropriating in relation to man. … The world's most primitive people have few possessions, *but they are not poor*. Poverty is not a certain small amount of goods, nor is it just a relations between means and ends; above all it is a relation between people. (Sahlins 1972, 37)

Sahlins' essay has been subject to critique. Most notably, scholars have claimed that Sahlins presented an overly romanticized version of

hunter-gatherer life, neglecting "the darker side" of these societies and the struggles they faced in their efforts to maintain their livelihoods (Kaplan 2000). Nonetheless, his essay remains instructive on several counts. First, it highlights the very different ways affluence can be conceived of and pursued in other societies and thus provides a useful point of contrast for considering how transhumanists conceive of the affluent society. Second, it reminds us that technological innovation and increased productivity are not guaranteed paths to improving life for all. Affluence, like poverty, is predicated upon a definite set of social structures and relations that regulate the distribution of wealth in society. Lastly, Sahlins' essay suggests that without such social structures in place, the increase in productivity and economic surplus is likely to exacerbate inequality rather than remedy it. Keeping these considerations in mind, I now want to examine the ways transhumanists conceive of the affluent society in the posthuman future.

7.2 The Society of Radical Abundance: Nanotechnology and Postindustrial Production

Heralded by transhumanists and others as one of the main research pioneers of molecular nanotechnology, Kim Eric Drexler has long been interested in how developments in nanotechnology might revolutionize the process of production and pave the way for a society where all people have access to an abundance of goods that are produced in more affordable and environmentally sustainable ways. As Drexler explains:

In 1986 I introduced the world to the now well-known concept of nanotechnology, a prospective technology with two key features: *manufacturing using machinery based on nanoscale devices,* and *products built with atomic precision* … Nanoscale parts and atomic precision together enable atomically precise manufacturing (APM), and through this technology will open the door to extraordinary improvements in the cost, range, and performance of products. (Drexler 2013, x)

Drexler's research has animated much transhumanist discussion of the "postscarcity" society and he has been eagerly embraced by transhumanists as one of their leading visionaries. As such, his work provides an apt window for exploring how the concept of the postscarcity society is being imagined and elaborated in transhumanist circles.

Drexler's interest in the revolutionary potential of nanotechnology was in large part born out of a sense of urgency to "help save the world from a distant catastrophe" (Drexler 2013, 10). In the 1970s, Drexler read two books that played a highly influential role in prompting this awakening: Rachel Carson's 1962 bestseller *The Silent Spring,* which was credited with boosting the environmental movement, and Donella Meadows, *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*. As Drexler recounts, *The Limits to Growth*, "undertook an audacious goal":

to model the underlying dynamics of global growth as an interlinked process, assuming that technology, resources, and the environment's resilience would remain within plausible bounds. The models that were presented in *Limits to Growth* suggested that continued economic growth, at first following an exponential trend, would lead to disaster in the early to middle decades of the 21st century. (Drexler 2013, 13)

While *The Limits to Growth* made Drexler increasingly concerned about the future sustainability of the planet and species, he also concluded that the book contained a "crucial defect." As he explains:

To my eyes, however, every model in *Limits* shared a crucial defect: When the authors framed their models of world dynamics, they included only the Earth. That is to say, the authors had set aside as irrelevant almost the whole of the universe. … The restricted visions embodied in *Limits to Growth* raised questions that led me to explore what might be found outside the world it had framed – to look outward, at first, toward deep space, but later inward, to explore the potential of technologies in the nanoscale world. (Drexler 2013, 13)

Indeed, in contemplating how to overcome "the limits to growth," Drexler did initially "look outward" to space. As a graduate student at MIT in the mid- and late-1970s, he became actively involved in efforts to develop technologies to access extraterrestrial resources. He earned a Master's degree from MIT in Astro and Aerospace Engineering and in the summers of 1975 and 1976, he participated in NASA initiatives on space colonization, or what is now referred to as space "settlement" initiatives.

In 1979, he discovered another highly influential work that in many ways precipitated his interest in nanotechnology. This was a talk given in 1959 by physicist Richard Feynman entitled "There's Plenty of Room at the Bottom," in which Feynman discussed the possibilities and potentials of being able to manipulate matter on an atomic scale. In the nine years following his first encounter with Feynman's work, Drexler developed his interest in nanotechnology into a full-scale research agenda. In 1986, he published his highly influential book *Engines of Creation: The Coming Era of Nanotechnology*, and along with his wife Christine Peterson, he founded The Foresight Institute with the mission of "Preparing for Nanotechnology" in the future. In 1991, he completed a doctoral thesis and earned a Ph.D. from the MIT Media lab. His thesis was then published as a book in 1992, entitled *Nanosystems: Molecular Machinery, Manufacturing, and Computation*. While Drexler's earlier publications provide more technical accounts of the workings of nanotechnology, his most recent 2013 book, *Radical Abundance: How a Revolution in Nanotechnology Will Change Civilization*, offers a sweeping account of the social implications of the nanotechnology revolution.

As the title of Drexler's book makes immediately clear, transhumanist visions of the affluent society are not predicated upon "the Zen Road to affluence." The scarcity "fix" they envision does not involve modifying or limiting human wants, nor does it involve relying upon "unchanging yet adequate" technologies. Rather, the proposed solution is to use progressively developing technologies to explore and exploit new

frontiers and resources to dramatically enhance their standard of living in the future.

The fixes proposed by transhumanists also reveal something significant about the imaginative style and forms of consciousness that animate the Transhumanist Movement. To borrow a term deployed by Mary Louise Pratt, transhumanist desires to usher in a postscarcity society reflect a new kind of "planetary consciousness" that is simultaneously extraterrestrial and interstitial. In her book *Imperial Eyes: Travel Writing and Transculturation*, Pratt deploys the concept of planetary consciousness to describe how the age of exploration and the mapping of the earth's limits by the mid eighteenth century led to a shift in interest from exploring new frontiers of the planet to cataloging the contents of the earth, as exemplified in the work of Charles Linne and the emerging science of botany. Thus, the discovery of a bounded planet, Pratt argues, gave rise to an experience of the world as both closing and opening, redirecting the gaze of scientists "toward interior exploration and the construction of global-scale meaning through the descriptive apparatuses of natural history" (Pratt 1992, 15). Among transhumanists, a similar sense of the world as both closing and opening can also be detected. As Drexler recounts:

The path that led me to the concept of APM was a journey of ideas, driven by curiosity and guided by a sense of mission shaped by concerns at a world-wide scale that could be measured in terms of generations. That mission, as I first understood it, was to do my part to help save the world from a distant catastrophe, a collision of industrial civilization with the limits of the Earth itself. I saw my role as that of an explorer of potential technologies that could change the world situation, studying these technologies with the tools of engineering and science and then sharing what I had learned. (Drexler 2013, 10)

Drexler proposes that the forthcoming nanotechnology revolution will be as monumental as the agricultural, industrial, and information/digital revolutions that preceded it. In contrast to industrial

manufacturing, which involves large-scale, capital-intensive, factory production, atomically precise manufacturing (APM) will involve compact machines, more akin to computers or 3D printers that could be housed in the space of a garage and used to produce an array of goods in a more cost-effective, flexible, and efficient manner. Indeed, Drexler likens the APM system to a "factory in a box." "An APM system is a factory in a box, a compact device packed with motors, gears, conveyors belts, and specialized gadgets of various sizes, typically plugged into an electrical outlet perhaps linked to a touch-screen interface. In other words, something much like a printer" (Drexler 2013, 276). In this system of production "radical productivity," which is a "key aspect of radical abundance," will be achieved through an understanding of "simple scaling laws." He explains:

Machines scaled down by a factor of ten million can perform ten million operations in the time it would take a similar macroscale machine to perform just one operation. Thus, in manufacturing, scaling machines by a factor of ten million translates directly to a dramatic increase in physical productivity as measured by the mass that can be processed per second by a given mass of machinery; at the nanoscale end of the process, this scaling principle is the basis for high-throughput APM. (Drexler 2013, 75)

Moreover, as APM manufacturing will be powered through "low cost solar energy" and other resources that are abundant and cheap, Drexler proposes that this way of producing goods will help mitigate the problems of "resource scarcity" and environmental degradation and allow future generations "to live more lightly on Earth, while radically raising the material standard of living worldwide" (Drexler 2013, 33–34). In contrast to hunter-gatherer societies, who had to contend with the vagaries of drought, heatwaves, and other climactic challenges, APM technologies will enhance human resilience in the future and make us less prone to the vulnerabilities of the natural environment. Through developments such as "enclosed agriculture," for example, he proposes that drought will "no longer" be "a concern" (Drexler 2013, 249).

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While Drexler is optimistic about the nanotechnology revolution and its potential to help create a society in which radical abundance is enjoyed by all, he also recognizes that there is need for caution and planning. The problems that APM manufacturing stand to solve will also likely generate new difficulties for societies to contend with. One potential consequence will be a decreasing demand for labor, as large-scale factory production is increasingly displaced by "the factory in a box" and as more and more traditional factory jobs become automated. Another potential consequence is a total disruption to global trade. He warns:

rapid deployment of this range of capabilities would lead to deep, pervasive disruptions in the global economy…. One can easily imagine disruptions in trade that would affect the livelihood of half the planet or more. And one could easily imagine a level of suffering and scarcity in the midst of potential abundance. (Drexler 2013, 33–34)

Drexler thus urges for the need to explore "policies for managing what could be a catastrophic success … for a conversation that considers prospects for our world as the physical potential of APM-level technologies crosses the threshold into physical reality" (Drexler 2013, 34–35). He concludes his book by stating:

Outcomes will depend on technological change, but also, perhaps even more so, on expectations, perceived interests, and policies as they take shape in the years to come. Gradually, the prospective APM transition will rise from the level of an idea worth considering, to a prospect that demands contingency planning, to an emerging reality that calls for action at the highest levels of human attention. (Drexler 2013, 282)

Thus, like Sahlins, Drexler too recognizes that affluence and poverty are not just predicated upon a certain amount of goods but above all, they imply a certain "relation between people" (Sahlins 1972, 37). Considering how that relation will be negotiated in the future is just as central to actualizing a society of radical abundance as are developing the right technologies.

7.3 The Bold Path to Abundance

Among transhumanists, Peter Diamandis is one of the most outspoken and influential proponents of the postscarcity society. Diamandis was born to Greek immigrant parents and grew up in the Bronx. His father, as he likes to recount, represented the epitome of the American Dream. Born into a poor family on the Island of Lesbos, he grew up "picking olives and tending goats" but eventually he went to university, emigrated, and became a very successful physician in New York. As an undergraduate, Diamandis pursued a degree in Molecular Genetics from MIT and then went on to complete a graduate degree in Aerospace Engineering. He also holds an MD from Harvard Medical School and is currently known as one of the world's most successful entrepreneurs and venture capitalists. He has founded more than 15 high-tech companies, is a highly sought-after consultant and public speaker, is a New York Times bestselling author, and he has accumulated an estimated net worth of 200 million dollars. In 2014, *Fortune* Magazine named him one of the "World's 50 Greatest Leaders."[1]

Like Drexler, Diamandis has long been interested in space exploration. In 1987, he cofounded and ran the International Space University. In the years since, he has emerged as one of the most prominent new space entrepreneurs and has been integral to the development of space tourism. He serves as the managing director and cofounder of the company Space Adventures, which provides private citizens with opportunities to travel to the International Space Station.

Dissatisfied with the slow pace of NASA research, Diamandis believes breakthroughs in science and technology, whether they are related to space exploration or anything else, are best pursued through the private sector rather than through government-funded initiatives. As such, in 1994, Diamandis founded the XPRIZE Foundation that provides millions of dollars in incentive prizes for people who make significant "industry changing" technological breakthroughs. In 2008, Diamandis joined

forces with Ray Kurzweil to found Singularity University in Silicon Valley, an institution that is explicitly designed to translate technological research and advances into commercial success.

If Drexler expresses the need to temper one's enthusiasm about the potential of future technologies, Diamandis calls for a "bold" and "passionate" approach to going "big," "creating wealth," and "impacting the world." He explains:

I'm just someone who fundamentally has always pursued my boldest and dearest dreams, and what's driven me is the world the way I think it *should* be, and going out and doing everything I know possible to make it happen. You know all of this comes from a deep seated passion and belief that we're living in a day and age where you can make your boldest dreams come true. You know for me it started as a child, passionate about Star Trek and Apollo and wanting to go to space, and then giving up on NASA being the mechanism to get me there, and just in my heart of hearts believing that I could do something to not only get myself there but to get others there. And then having some small success and that addiction to that level of success then drives you to want to do the next bigger and bigger thing. … In my heart and I believe that now, today, there is nothing that we cannot do. Whether it's to go and mine the asteroids, extend human life spans, wipe out poverty on this planet.[2]

Like so many other transhumanists, Diamandis claims that some of his boldest dreams have been inspired by his early encounters with science fiction authors. In fact, he describes his life's work as an attempt to render these science fictions, "science fact." As he reflects:

If I think about who my mentors have been, they have been the characters in science fiction novels. They've been the works of Heinlien, they've been the works of Roddenberry. They are the people who see the world as it could or should be and then paint that picture so vividly that you want to go out there and make it happen. And that's driven me all my life and I know so many others, and so when I think of about the results of the XPRIZE or Space Adventures or planetary resources or the organizations I've been

a part of or been in, like Singularity University, it's painting that picture of the future and then in a serial fashion knocking down boundary after boundary, blockade after blockade, until you hit the fundamental laws of physics, and then making something happen, because ultimately anything big and bold is hard and difficult and impossible in science fiction until you make it science fact.[3]

As an engineer and scientist, Diamandis is actively involved in a number of initiatives that seek to develop and use new technologies to transform society. And like Drexler, Diamandis is a firm believer that developing technology rather than limiting human wants is the primary solution to overcoming scarcity and achieving a society of abundance. However, what sets Diamandis apart from technoenthusiasts such as Drexler is that his vision of the society of abundance not only derives from a faith in the transformative power of technology. It is equally informed by his faith in power of the market. In Diamandis' view, capitalism triumphant will pave the way to the promised land. Both of his books, *Abundance: The Future Is Better than You Think* (2014) and *Bold: How to Go Big, Create Wealth, and Impact the World* (2015), are primarily focused on how to actualize the fullest potentials of the capitalist system. Indeed, he describes *Bold* as "as both a manifesto and manual for today's exponential entrepreneur, anyone interested in going big, creating wealth, and impacting the world" (Diamandis and Kotler 2015, xii). A closer look at these texts, therefore, can help us gain a better sense for some of the underlying assumptions and values that shape Diamandis' vision of the affluent society and his attempts to usher it in.

7.3.1 *The Future Is Better than You Think: Overcoming Cognitive Biases and Linear Thinking*

Diamandis' writings are animated by a spirit of extreme confidence and optimism rather than an anxious desire to ward off a looming "catastrophe." As he states at the outset of his book, "*Abundance* is a

tale of good news … this book will demonstrate, global living standards will continue to improve regardless of the horrors that dominate the headlines" (Diamandis and Kotler 2014, ix–x). However, according to Diamandis, one of the first steps to achieving this goal will require changing the way people think. Diamandis proposes that a cognitive "fix" is just as essential to actualizing a postscarcity society, as are the development of transformative technologies or new business practices. He writes:

The next twenty-five years can remake the world, but this won't happen on its own. There are plenty of issues to be faced, not all of them technological in nature. Overcoming the psychological blocks – cynicism, pessimism, and all those other crutches of contemporary thinking – that keep many of us from believing in the possibility of abundance is just as important. (Diamandis and Kotler 2014, 27)

Diamandis refers to these "blocks" as "cognitive biases … patterns of deviation in judgment that occur in particular situations." He notes that "researchers have now collected a very long list of these biases, and a great many of them have a direct impact on our ability to believe in the possibility of abundance" (Diamandis and Kotler 2014, 30).

Cognitive biases, Diamandis asserts, develop as a means to help the brain order and process the vast amount of information it takes in on a daily basis; however, in doing so, they also make it more difficult for the brain to consider other information. Many of the biases we have developed, Diamandis argues, have their roots in our evolutionary history and psychology. For instance, Diamandis proposes that in earlier times having an active amygdala and being fearful, pessimistic, and on guard against dangers in the immediate environment was incredibly adaptive for *Homo sapiens* who had to contend with threats from dangerous prey. Gloomy and fearful people, for instance, managed to "avoid getting eaten by lions in the Pleistocene" (Diamandis and Kotler 2014, 39).[4] However, in today's global world, Diamandis proposes that

our cognitive biases have become maladaptive and prevent us from recognizing true possibilities to make the world a better place. Thus, what comes through so clearly in Diamandis' writings is an idea that we have encountered several times over in previous chapters: transhumanists are committed to the idea that changing society will not just involve social engineering, it will also involve tackling the limitations of our biological brains. Even in writings pitched to an audience of business entrepreneurs, Diamandis takes the time to make this point. As Diamandis sums it up, "our brain's architectural design and evolutionary history conspire to keep us pessimistic" (Diamandis and Kotler 2014, 31).

Moreover, according to Diamandis, it is not just a hyperactive amygdala that stands in the way of actualizing a postscarcity society but also our "local and linear" thinking, which he again views as a vestige from our evolutionary past. As he explains:

Over the past 150, 000 years, Homo sapiens evolved in a world that was "local and linear," but today's environment is "global and exponential." In our ancestor's local environment, most everything that happened in their day happened within a day's walk. In their linear environment, change was excruciatingly slow … and what change did arrive always followed a linear progression. … Today's global and exponential world is very different from the one our brain evolved to comprehend … The issue, then, is that we are interpreting a global world with a system built for local landscapes. … This presents us with a fundamental psychological problem. Abundance is a global vision built on the backbone of exponential change, but our local and linear brains are blind to the possibility, the opportunities it may present, and the speed at which it will arrive. (Diamandis and Kotler 2014, 34–35)

Thus, if Drexler proposes that the society of abundance can be actualized through the use of nanoscale technologies, Diamandis argues that *scaling up* our thinking is equally important if we are going to usher in a better life for all.

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One of the ways Diamandis has sought to encourage more "macroscopic thinking" has been through institutional channels. Recounting his rationale for cofounding Singularity University, he explains:

In 2007 I realized that if we wanted to start strategically employing exponentially growing technology to improve global standards of living, it wasn't enough to know which fields were accelerating exponentially; we also needed to know where they overlapped and how they might work together. A macroscopic overview was required. (Diamandis and Kotler 2014, 56)

Dismayed by the lack of universities that provided an "integrated curriculum," Diamandis approached Ray Kurzweil with the idea to develop one. "After much deliberation," he states, they selected eight exponentially growing fields to serve as the core of Singularity University's curriculum: biotechnology and bioinformatics; computational systems; networks and sensors; artificial intelligence; robotics; digital manufacturing; medicine; and nanomaterials and nanotechnology.

Singularity University, which is based in Silicon Valley and registered as a "benefit corporation," not only encourages the crossing and collapsing of disciplinary boundaries to generate "exponential" global change and raise the standard of living for all. It has also emerged as a powerful institution that very successfully captures and concentrates capital (of various kinds) among a new technoentrepreneurial elite, and in its capacity to do so, it actively contributes to furthering their influence in society.[5] As Diamandis and Kotler reflect in the 2014 introduction to *Abundance*:

The greatest tool we have for tackling our grand challenge is the passionate and dedicated human mind … ideas we've never before had access to-will result in new discoveries, products, and inventions that will benefit us all … *Equally important is the entrepreneurial possibility hidden amongst these challenges. One idea that will become clearer as we go along is the notion that the world's biggest problems are also the world's biggest business opportunities.* Along exactly these lines, at Singularity University – the

Silicon-Valley-based university Peter co-founded with inventor, author, and futurist Ray Kurzweil – students study the use of exponential technology to address the world's grandest challenges. At SU, we believe that the best way to create billions of dollars' worth of value is to positively impact the lives of billions of people, thus our students are asked to create what are called ten to the ninth-plus companies – that is, companies that can have exactly this kind of billion-person impact. (Diamandis and Kotler 2014, xi italics mine)

Thus, if the original affluent society was predicated upon the notion that one "went into business" for one's health, the society of abundance, as envisioned by transhumanists like Diamandis and Kurzweil, is predicated upon the idea that one goes into business for their health *and* their wealth. Indeed, they are cast as eminently compatible. Companies that "positively impact the lives of billions of people" and raise their standard of living and quality of life will also pave the way to vast riches, creating "billions of dollars' worth of value." Indeed, in this society of abundance, it seems that being a millionaire is no longer enough. The heroes who populate this landscape, and who are held up as entrepreneurs to emulate, are billionaires, people like Elon Musk, Peter Thiel, Larry Page, Richard Branson, and Jeff Bezos. As Diamandis explains, it is precisely their ability to "think at scale" that has contributed to their success (Diamandis and Kotler 2015, 116).

7.3.2 *The Forces for Abundance*

In addition to new "transformative technologies," Diamandis identifies three other "forces" that will play a pivotal role in ushering in the future society of abundance. These include: "The DIY Innovator/Social Entrepreneur," "The Technophilanthropists," and "The Rising Billion."

7.3.2.1 *The DIY Innovator and the Social Entrepreneur*
Diamandis and Kotler argue that "the guy" who became "the voice of one of the most potent forces for abundance the world had yet seen: the Do-It-Yourself (DIY) innovator" is Stuart Brand (Diamandis and Kotler

2014, 119). Stuart Brand was a Stanford-trained biologist who became famous for inspiring back to the land communal living with his highly celebrated and widely read *Whole Earth Catalog* published in 1968. A hero of the counterculture, Brand and his catalog provided a generation of "hippies" with the tools and techniques to live off the grid. The *Whole Earth Catalog* celebrated the idea of using the Do-It-Yourself ethic to forge a self-reliant lifestyle and achieve new forms of personal transformation.

Paradoxically, while inspiring a generation of hippies to get off the grid, Brand brought the DIY ethic back to the center of it too. In the late 1960s, Brand became deeply involved with the emerging computer-tech industry in Menlo Park, California. He worked especially closely with Douglas Engelbart, who is known as the "original visionary and the inventor of the modern 'interactive' style of computing" (Fisher 2018, 304). In the process, Brand was introduced to an array of new computer technologies, and he became instrumental in facilitating the shift from "counterculture to cyberculture" (Turner 2006). As the founder of *Wired* magazine, Kevin Kelly notes, Brand immediately recognized how these technologies, like the ones he had written about in the *Whole Earth Catalog*, could be used to radically improve and empower individuals. Brand is not only credited with inventing the term "personal computer," he also, Kelly contends, "is singlehandedly responsible for American culture's acceptance of the personal computer … In the sixties, computers were Big Brother. The Man. They were used by the enemy … but Brand … understood that if these tools became personal, it flipped the world around into a place where people were gods" (quoted in Turner 2006, 120–121).[6]

According to Diamandis and Kotler, Brand's DIY enthusiasm was further accompanied by two other principles that have helped "shape the DIY innovator into a force for abundance." As they remark:

Brand's marriage of self-reliance and technology helped shape the DIY innovator into a force for abundance, but just as important was the movement's adoption of two more *WEC* (*Whole Earth Catalog*) principles. The first was what would later be known as "the hacker ethic," the idea – as

Brand famously put it – that "information wants to be free." The second was the then-strange notion that business could be a force for the good. (Diamandis and Kotler 2014, 121)

The fact that Diamandis and Kotler highlight these two additional "principles" and conjoin the DIY and hacker ethic with the "strange notion that business could be a force for the good" is indeed noteworthy and it suggests something important about how Diamandis conceives of the DIY innovator becoming a "force for abundance." Unlike Stuart Brand, Diamandis is not suggesting we use our innovations to live off the grid and become self-reliant. For in order to become a "force for abundance," it is not enough to just come up with a great idea or share information with your friends and biohack your way to a new medical solution or compound in your garage or basement (as many of the hackers and "scrapheap transhumanists" I discussed in Chapter 4 might do). Rather, in Diamandis' vision, to become a "force of abundance," the DIY innovator has to produce something that will have both a social impact, and "equally important" "entrepreneurial possibility." The goal at Singularity University is to turn DIY Innovators into "exponential entrepreneurs" who will "create billions of dollars' worth of value" *and* "positively impact the lives of billions of people."[7]

Moreover, the "problems" DIY innovators will tackle are not just technical ones. In addition to getting us to the moon or finding the cure for cancer, Diamandis proposes that the DIY innovators of the future will become a force of abundance by taking on social problems and programs as well. Indeed, he refers to agents such as "social entrepreneurs" and explains:

If the DIY innovator is taking on big government science programs, then the social entrepreneur is the DIY-er taking on big government social programs. The term itself was coined in 1980 by Ashoka founder and legendary venture capitalist Bill Drayton to describe individuals who combine the pragmatic, results-oriented methods of a business entrepreneur with the goals of a social reformer. (Diamandis and Kotler 2014, 129)

In celebrating and embracing the DIY Innovator and Social Entrepreneur as "forces of abundance," Diamandis thus paints a picture of the future where government, which in many societies plays an integral, if not primary, role in ensuring the welfare of its citizens, is all but absent from attempts to create an affluent society. In Diamandis' vision of the future, the issues that matter most to citizens – adequate housing, education, and healthcare for example – will increasingly be decided, or at least significantly determined, by business entrepreneurs.[8]

7.3.2.2 The Technophilanthropists

The second "significant force of abundance" is a "new breed" of young caring capitalists who are using their riches, talents, and magnanimous hearts to make the world a better place. "What seems to unify" these "technophilanthropists" is:

a high level of optimism, a magnanimous sphere of caring, and a hearty appetite for the big and the bold. Perhaps this is to be expected. These are the same captains of the digital age who, with the stroke of HTML code, have reinvented banking with PayPal, advertising with Google, and commerce with eBay. They've seen firsthand how exponential technologies and the tools of cooperation can transform industries and better lives. They now believe that the same high-leverage thinking and best business practices that led to their technological success can bring about philanthropic success. Taken together, they constitute a significant force for abundance and a new breed of philanthropist: a technophilanthropist; a young, idealistic, iPad jet-setter who cares about the world – the whole world – in a whole new way. (Diamandis and Kotler 2015, 133)

According to Diamandis and Kotler, there are a number of things that make this "new breed" of technophilanthropists different from the industrial philanthropists of the past.[9] The first significant difference is that the Rockefellers, Vanderbilts, and Carnegies "kept their dollars in the neighborhood." In contrast, the technophilanthropists of today are global in both their gifting and in their ambition. For instance, after

cashing out of eBay in 1998 for $2 billion dollars, Jeff Skoll, who served as the first president of eBay, created The Skoll Foundation to pursue "a vision of a sustainable world of peace and prosperity" by investing in "social entrepreneurs" (Diamandis and Kotler 2015, 135).

Another difference is that whereas the robber barons used their success as industrial capitalists to *finance* their charitable giving, todays' technophilanthropists utilize the same financial strategies in their philanthropy as they do in their business enterprises. They propose greater social and economic returns can be achieved in philanthropic projects when the profit motive is kept as an incentive.[10] Moreover, instead of just writing a check, Diamandis and Kotler point out that today's technophilanthropists bring much more than just financial capital to the table. They bring connections, vision, and "energy and confidence from building global business at such a young age" (Diamandis and Kotler 2015, 137). Unlike the robber barons who achieved their wealth in their "august years," many of today's technophilanthropists became billionaires before the age of thirty-five. All of this, they argue, have turned the technophilanthropists into what Matthew Bishop calls "hyperagents":

Hyperagents … "have the capacity to do some essential things far better than anyone else. They do not face elections every few years, like politicians, or suffer the tyranny of shareholder demands for ever-increasing profits, like CEOs of most public companies. Nor do they have to devote vast amounts of time and resources to raising money, like the most heads of NGO. That frees them to think long term, to go against conventional wisdom, to take up ideas too risky for government, to deploy substantial resources quickly when the situation demands it – above all, to try something new." The big question is, will they be able to achieve their potential? (Diamandis and Kotler 2015, 137)

The ideas and values that animate Diamandis' vision of how to usher in an affluent society could not seem further from those that Sahlins observed among hunter-gatherer societies. The original affluent society was made possible by a more or less even distribution of resources, a lack of private property, and a sharing and reciprocity among members

of the band. Deeply committed to their egalitarian way of life, hunters-gatherers even ridiculed and shamed members of the band who tried to use their gifts to influence others. As anthropologist Richard Lee observed in his work with the Ju/'hoansi (formerly referred to as the !Kung), hunters who presented their gifts of meat in a boastful manner were ridiculed to keep them "humble"; having a few superpowerful individuals take the lead in their society would have been abhorrent to them (Lee 1969). By contrast, this path to abundance is all about celebrating the magnanimity and influence of billionaire "hyperagents." This path to abundance is predicated upon and even requires that a few "smart" apples should control a wildly disproportionate amount of wealth in order to become the real agents of change who will make the world a better place. Thus, the basic idea animating this vision of the affluent society is that the rich can (and *should*) be the ones to not just "save the world" but also control it.[11]

7.3.2.3 *The Rising Billion*

According to Diamandis and Kotler, one of the ways the "rich will save the world" is by tapping into the market potential of "the rising billion" which they cast as the last significant "force of abundance." Diamandis came to appreciate the significance of this market and its potential as a "force of abundance" after reading business professor, Coimbatore Krishnarao Prahalad's highly influential 2002 article, *The Fortune at the Bottom of the Pyramid*.[12] As Diamandis notes, "the article made a simple point: the four billion people occupying the lowest strata of the economic pyramid, the so-called bottom billion, had lately become a viable market" (Diamandis and Kotler 2014, 141). In 2004, Prahalad expanded this idea into a book. As Diamandis notes:

He opened (the book) with a strong statement of purpose: "If we stop thinking of the poor as victims or as a burden and start recognizing them as resilient and creative entrepreneurs and value-conscious consumers, a whole new world of opportunity will open up. … The BoP market potential

is huge: 4 to 5 billion underserved people and an economy of more than $13 trillion PPP (purchasing power parity)." (Diamandis and Kotler 2014, 142)

Moreover, Prahalad proposed that the benefits of tapping into this market were fiscal *and* "social." He argued that one of the best ways to help pull the poor out of poverty would be to provide them with cheap but "necessary" goods and services (for instance, soap, clothes, medicine, prosthetic limbs, eye surgery, even cars made for this low-end market) that in turn would enhance their health and contribute to their empowerment.

Diamandis and Kotler consider how technologies like the World Wide Web and cheaper internet services will enable the rising billion to "join the global brain" (Diamandis and Kotler 2014, 149) and contribute their minds and intellects to the development of society; however, they too suggest that it is first and foremost as consumers that their impact will be felt and their voices heard. For instance, in discussing the efforts the automobile companies in India have made to court this new market by offering a more diverse range of affordable cars, Diamandis and Kotler write:

Choice was the missing ingredient. Suddenly – the rising billion – all four billion of them – have a way and a reason to participate in the global conversation…. For the first time, not only are their voices being heard, their ideas – ideas that we've never had access to before – are joining the global conversation. And if for no other reason than the law of large numbers and the power of these ideas, this puts the rising billion in the same category as exponential technology, the DIY-ers, and the technophilanthropists: as a potent force for abundance. (Diamandis and Kotler 2014, 144)

Here again, therefore, we find stark contrasts with the logics and relations that animated hunter-gatherer societies. First, in this proposed path to abundance, it is not the Zen road to affluence that is advocated. On the contrary, the goal is to keep the wheels of profit turning by increasing people's wants and constituting them as ever more voracious

consumers. Second, in hunter-gather societies, sociality was organized around relations of kinship, obligation, and reciprocity. In this society of abundance, by contrast, sociality is first and foremost mediated through the marketplace. It is as producers and consumers that people are valued and even "heard." Lastly, if the original affluent society was predicated upon an equal distribution of resources that more or less kept people on the same level, this society of abundance, as Prahalad's title, *The Fortune at the Bottom of the Pyramid,* makes explicitly clear, is hierarchical. Although Prahalad and Diamandis argue that cheap commodities can play a role in alleviating poverty and empowering the poor, and although the passage above suggests that some form of "consumer democracy" will prevail in the future (Janus 1983), what they do *not* call for, what they do not even question, is a restructuring of the "pyramid." Indeed, the structure and maintenance of the pyramid is integral to making a "fortune." And making fortunes is one of the top priorities that animates this vision of the future.

7.4 Democratic Transhumanism and Ensuring Access to the Means of Subsistence

Not all transhumanists, however, are confident that unbridled capitalism will pave the way to progress and raise global living standards. Nor do they agree that solving the world's problems should be left in the hands of a few philanthropic "hyperagents" or as they refer to these individuals, "business leaders who operate in the interests of capital" and seek to accumulate personal fortunes (Murphy 2018). Indeed, a growing number of transhumanists who self-identify as "technoprogressives" and who openly declare their socialists leanings have proposed that if we are going to use technology to usher in a society where posthuman beings can enjoy a life of economic security, then this will require not just a technological fix but also social and political interventions. Transhumanist James Hughes has been one of the most outspoken

proponents of this "technoprogressive" platform or what he also refers to as "democratic transhumanism."

Born in Columbus, Ohio, Hughes holds a Ph.D. in Sociology from the University of Chicago and regularly teaches a course on "Science and Socialism." He is also a former Buddhist Monk, a passionate futurist, and a man dedicated to "the Enlightenment" values. As he reflected in a 2016 interview:

I'd say that a big part of my intellectual life and career has been attempting to draw the transgenic connections between the Buddhist tradition, my socialist politics, and futurism, trying to articulate what those connections are. Transhumanism as a manifestation of enlightenment values in a futurist context around biopolitics, yes, it's been mostly so far attractive to men – especially men coming out of scientific and technical fields.[13]

Through his prolific writings, activism, and his involvement in key transhumanist organizations such as the WTA and the Institute for Ethics and Emerging Technologies which he cofounded with Nick Bostrom in 2004, Hughes has sought to expand the appeal of transhumanist ideas beyond "men coming out of scientific and technical fields" and beyond the "Silicon Valley elite" who he claims have achieved an "ideological hegemony" over the transhumanist community. As he explains:

I've done a lot of public polling of the transhumanist community and the majority of the transhumanist community is not libertarian and the plurality of them are, in fact, on the left of one sort or another. There is a lot of at least intellectual concern about social justice questions in the transhumanist community. The problem is that the wealthiest and most prominent transhumanists, especially those in Silicon Valley, have ideological hegemony over the rest of us because they have the most resources and that's the way the world works.[14]

Indeed, the contrast between Singularity University and The Institute for Ethics and Emerging Technologies vividly displays the very different ways that the "Silicon Valley elite" and technoprogressives like Hughes

have embraced transhumanism as a potential agent of change in the future of our society and species. Whereas Singularity University is a for-profit "benefit corporation" that encourages and institutionalizes alliances between technoscientific research and capital accumulation, The Institute for Ethics and Emerging Technologies, is a nonprofit think tank that is funded largely through donations. As Hughes happily laments, "The IEET, because it's a left-wing techno progressive outfit it has not attracted that kind of money, in fact, it has attracted no money. It's a labor of love for most of us. That's part of the problem." Whereas Singularity University charges its students $15,000 a week to participate in its "executive programs" and encourages its students to create "billions of dollars of value" by creating ten to-the-ninth-companies, the stated mission of the IEET reads:

The Institute for Ethics and Emerging Technologies is a nonprofit think tank which promotes ideas about how technological progress can increase freedom, happiness, and human flourishing in democratic societies. We believe that technological progress can be a catalyst for positive human development so long as we ensure that technologies are safe and equitably distributed. We call this a "technoprogressive" orientation. Focusing on emerging technologies that have the potential to positively transform social conditions and the quality of human lives – especially "human enhancement technologies" – the IEET seeks to cultivate academic, professional, and popular understanding of their implications, both positive and negative, and to encourage responsible public policies for their safe and equitable use.[15]

Thus, instead of advocating a "bold" approach to solving our problems in the future, Hughes insists on a cautious one. His optimism is tempered with serious concerns about the negative as well as positive implications of new technologies, and this has significantly shaped his thinking and writings. Hughes lays out many of his ideas in his 2004 book, *Citizen Cyborg: Why Democratic Societies Must Respond to the Redesigned Human of the Future*. He has expressed them in an outpouring of articles and interviews he has given over the years. And most recently, he has

taken up these issues again in his 2017 book (which he coedited with Kevin LaGrandeur) *Surviving the Machine Age: Intelligent Technology and the Transformation of Human Work*. Drawing upon these materials, I want to consider how Hughes' attempt to envision and usher in an affluent society differs from Diamandis'.

7.4.1 *The Forces for Equality*

If the watchword for Diamandis is abundance, the watchword for Hughes is equality. Like the hunter-gathers Sahlins described, Hughes is less concerned with ushering in a future of unparalleled wealth, than ensuring that in the future, technologies and resources will be "equitably distributed." As Hughes puts it, "the transhumanist approach should be concerned with how do we make human beings smarter and more capable … which is all human beings and not just some elite group of human beings."[16] Thus if Diamandis' vision of the society of abundance hinges upon an economic pyramid, Hughes proposes that an ideal society should look more like a level plane. More specifically, according to Hughes, there are three key forces that will play a pivotal role in ushering in a society of equality: transformative technologies, democratic governance, and policies that ensure all citizens have access to the means of subsistence.

7.4.1.1 *The Promise of Technology*
Like all transhumanists, Hughes is a firm believer in the transformative power of science and technology, and he has spent much of his career arguing against the "bioluddites" and "bioconservatives" who oppose using new technologies for human enhancement because they believe it violates our "human nature." As Hughes states in the very opening of *Citizen Cyborg*:

In the twenty-first century the convergence of artificial intelligence, nanotechnology and genetic engineering will allow human beings to achieve things previously only imagined in science fiction. Life spans will extend well beyond a century. Our senses and cognition will be enhanced

we will gain control over our emotions and memory. We will merge with machines, and machines will become more like humans. These technologies will allow us to evolve into varieties of "posthumans" and usher us into a "transhuman" era and society. … This book argues that transhuman technologies, technologies that push the boundaries of humanness, can radically improve our quality of life, and that we have fundamental right to use them to control our bodies and minds. (Hughes 2004, xii)

Like Nick Bostrom and Gregory Stock, who I discussed in Chapter 6, Hughes is also an advocate of using germline engineering to ensure that our offspring are not born with biological conditions that would put them at a disadvantage in life. And currently, he is working on a book entitled *Cyborg Buddha* that explores how neuro-technologies can be used to help engineer a more virtuous species. Tinkering with our neurobiology, he proposes, would make it much easier to develop a society based on fairness and equality. Describing his current book project, he explains:

Eventually, the idea for this book was, "How do we define what it means to live a good life in a transhumanist future where we have more control over our neuro technologies? What are the components of a good character and a good life in that future?… The book basically has the format of arguing for six basic virtues which have to do with how I've boiled down the social neuroscience to different things that we can work on: intelligence as critical faculties, caring, self-control, transcendence, fairness and so forth.[17]

Like Diamandis, therefore, Hughes also believes that social engineering, on its own, is not going to ensure a better society. He argues we can and should use technology to reduce "the biological bases of social inequality" (Hughes 2004, 95). However, unlike Diamandis, Hughes insists that a strong governmental presence will be necessary for a more equitable society to develop.

7.4.1.2 *The Power of Democratic Governance*
Hughes argues that in order to "ensure" the benefits of these technologies, "we need to democratically regulate" them "and make them equally

available in free societies." As he maintains, "Becoming more than human can improve all of our lives, but only new forms of transhuman citizenship and democracy will make us freer, more equal and united (Hughes 2004, xii). As noted in Chapter 1, Hughes argues that ushering in a truly "democratic future" will require a concerted "movement." Hughes proposes that transhumanists need to wage their battle and spread their ideas through multiple channels in "the public square," through "think tanks," "journals, "conferences," and "study groups." Moreover, Hughes proposes that the inspiration for such a movement can be found in the past. He writes, "The democratic humanism of the French and American revolutions has inspired dozens of movements, all united by the idea that humans should use reason and democracy to control their own lives … I argue that those diverse threads can be united in a radically democratic form of technoptimism, a democratic transhumanism" (Hughes 2004, 187).

For Hughes, "democratic transhumanism" provides a "middle path." It is committed to promoting equality and solidarity while at the same time accommodating libertarian desires for personal freedom and autonomy. As he puts it:

Democratic transhumanism is the next stage of human self-emancipation through science and democracy. Democratic transhumanism addresses the legitimate concerns of the bioLuddites for equity, solidarity and public safety, and libertarian concerns with our right to control our bodies and minds. If libertarians want enhancement technologies to be safe, widely available and unhampered by Luddite bans, they need to support legitimate regulation and universal provision. If progressives want enhancement technologies to make society more equal, they need to make enhancement universally available. (Hughes 2004, 187)

From Hughes' perspective, therefore, the path to a better future is not to let rich "hyperagents" do whatever they want or be disproportionately responsible for setting society's agenda for technological and economic development. Rather, in Hughes' view, such decisions need to be regulated in a collective, democratic, and *transparent* way.

Moreover, Hughes argues that technological developments will further empower the populace to make the kinds of educated decisions that are crucial to the functioning of a healthy and successful democracy. Like Diamandis, Hughes also proposes that the ability to think "globally" will be integral to solving problems and ushering in a better future for all. However, in his envisioning of the future, this capacity will not be developed through institutions like Singularity University but rather through the use of neural technologies that link our brains to telecommunication systems. As he anticipates:

Human enhancement technologies promise to expand our capacity for citizenship, making direct, participatory, electronically mediated democracy more possible. Our future brains, wired to the world through telecommunications, will be capable of thinking and acting globally. We will monitor the world with special expert systems and make political decisions based on more sophisticated heuristics than a politician's party affiliation or religious views. (Hughes 2004, 199)

The uninterrogated assumption here is that expert systems and greater access to information will translate into greater rationality on the part of voters, and that greater rationality, in turn, will translate into a more robust democracy.

7.4.2 Ensuring a Means of Subsistence: From the Zen Road to Affluence to the Cyborg Road

While Hughes is optimistic about the possibility of using neural technologies to enhance participation in the democratic process and "expand our capacity for citizenship," he is also keenly aware that new technologies stand to radically displace human beings from the economy. Indeed, Hughes and LaGrandeur begin *Surviving the Machine Age* by issuing a warning: "not enough attention is being paid to a technological and economic phenomenon that is hugely important to

all of our futures: the increasing displacement of workers by machines" (LaGrandeur and Hughes 2017, v). The problem, as they see it, is that the very technologies that are being used to increase productivity – and thereby, in Adam Smith's scheme at least, enhance "the wealth of nations" (or rather corporations), also threaten to usher in unprecedented levels of technological unemployment. Hughes and LaGrandeur warn that this technologically induced unemployment will "worsen the gap" between the rich and the poor, and instead of paving the way to a society of abundance for all, it is far more likely that these changes will give rise to a society of conflict and stark inequality if interventions are not made. As they observe:

This combination, namely increasing downward pressure on wages and job availability caused by automation, the disappearance of avenues for obtaining improvements in conditions, the concentration of wealth and power in the hands of fewer and fewer people, and the decline in the welfare of all but the top earners in industrialized society, is a repeat of what happened during the so-called Gilded Age. And so we are in great danger of seeing a repeat of the violence of that era too. (LaGrandeur and Hughes 2017, 6)

Moreover, from their perspective, the disruptions caused by technological unemployment will not be solvable through the magic of the market mechanism, the DIY entrepreneur, or the magnanimity of the technophilanthropists. Ensuring that people have access to the means of subsistence is going to require collectively crafting and adopting policies that provide a reliable social safety net. Hughes and LaGrandeur propose four short-term "solutions" to the looming problem of technological unemployment: (1) cutting back work hours to six hours a day so that employment can be shared among the population; (2) instituting a "universal basic income" that would ensure that all citizens, even if unemployed, "would be able to meet their basic economic needs" (LaGrandeur and Hughes 2017, 8); (3) providing a variety of "microincomes to the general population by levying microfees on Internet

businesses in exchange for the personal data they now collect on us for free" (LaGrandeur and Hughes 2017, 10); and (4) subsidizing technology for the poor so that they will be able to be develop technological skills that will enhance their chances of employment in the future.

While these solutions are intended as measures to mitigate the most immediate and dire impacts of technological unemployment, they also propose a long-term solution. Hughes and LaGrandeur suggest that in the more distant future, we should strive to create a "more symbiotic economic relationship" with the machinery and artificial intelligence that is currently threatening human jobs (LaGrandeur and Hughes 2017, v). As they speculate, "humans who agreed to get digital implants to allow enhanced thinking and physical performance could work symbiotically with smart technology in new ways to create whole new employment categories that we have a hard time imagining now" (LaGrandeur and Hughes 2017, 11–12). Thus, if hunter-gatherers pursued the Zen Road to affluence and achieved economic security by limiting their wants and fulfilling their needs with technological means that were "unchanging yet adequate," Hughes and LaGrandeur propose that in the future, we might need to pursue a Cyborg Road to affluence. Only by merging with machines, by incorporating new technologies ever deeper into the fibers of our beings will we continue to function as "productive" members of society and thus be able to stave off the threat of scarcity.

7.5 Conclusion: Radical Abundance or Pervasive Inequality?

As Marshall Sahlins pointed out long ago, and as this chapter has sought to demonstrate, among human societies, there is more than one road to affluence. The road that each society pursues both reflects and informs the way human beings live with each other, relate to each other, and value each other. The economic organization of society, therefore, is not just about the production, distribution, and consumption of goods and services; it is ultimately about the production of people and the societies

in which they become human beings of a particular kind, rather than another. Indeed, this was Sahlins' basic point when he set out to critique the models and assumptions of economic theory over fifty years ago. While economists operated with the assumption that all human beings are torn between their infinite wants and limited means, Sahlins showed us a people whose wants were limited but means adequate to meet them. By following the Zen Road to affluence, hunter-gatherers enjoyed a life of material plenty and relative equality. Contrary to outsiders' misconceptions, they did not experience their lives as "lacking."

Transhumanists, by contrast, are not proponents of the Zen Road to affluence. Instead of trying to limit or restrict human wants, they are interested in how technologies can be used to increasingly develop and satisfy them. Their goal is to use human ingenuity to raise the standard of living for all, not persuade us to be content with less. And yet, while transhumanists agree that we have the technological capacity to create a "society of radical abundance," they do not agree on how best to usher that society in, nor do they share the same levels of optimism as to whether it will be actualized in the future. As we have seen, Peter Diamandis enthusiastically proposes that the "forces of abundance" are already at hand. By harnessing the power of transformative technologies, DIY innovators and social entrepreneurs, technophilanthropy, and the market potential of the rising billion, he proposes capitalism will pave the way to progress and increase global living standards for all. Technoprogressive transhumanists like James Hughes, however, disagree. They argue that without the proper social and political interventions in place, the future is more likely to produce pervasive inequality rather than radical abundance. The very technologies that will increase productivity and thereby raise our GDP will also threaten to render human labor obsolete and thereby exacerbate the gap between the rich and the poor. As such, Hughes advocates for a democratic transhumanism that is inspired by socialist ideologies instead of free-market ones.

From Original Affluence to Posthuman Abundance

By highlighting the different ways Diamandis and Hughes envision our future and the means for achieving a "postscarcity society," in this chapter, I have also sought to demonstrate that the Transhumanist Movement is far from monolithic. If Silicon Valley elites like Diamandis have achieved an "ideological hegemony" over the community because they control more resources, there is also a growing number of transhumanists who are actively aligning with the technoprogressive perspective. Indeed, what makes this schism in the Transhumanist Movement so timely and interesting is precisely the fact that it so poignantly reflects ideological schisms within the larger sphere of contemporary American politics. Will free-market capitalism continue to prevail? Or might the future road to "progress" be animated by calls for democratic socialism?

Conclusion
Back to the Future: Reflections on a Discipline and a Movement

It was not an abiding interest in science, technology, or futurism that inspired me to write this book. Truth be told, I hate science fiction, I've never seen The Matrix, and when it comes to using new technologies, I am hopeless. These personal details may help explain why I was so bewildered when I first stumbled upon the writings of transhumanists. From my initial vantage point, their technoutopic visions of the future struck me as alien and off-putting. In other words, the transhumanists were my radical "Other": a seemingly inscrutable group of people who appeared to come at life very differently than I and who unsettled me with their "strangeness."

But that was also precisely the appeal. I wrote this book because it presented a classic anthropological challenge – perhaps *the* anthropological challenge – to achieve understanding of a group of people who seem very different from one's own so that one may, "in some extended sense of the term, converse with them" (Geertz 1973, 24). As Clifford Geertz proposed long ago, "The essential vocation of interpretive anthropology is not to answer our deepest questions, but to make available to us answers that others, guarding other sheep in other pastures, have given, and thus to include them in the consultable record of what man has said" (Geertz 1973, 30).

While the Transhumanist Movement presented me with a classic anthropological challenge, I also sensed that the movement could

provide a new generation of students with a timely opportunity to learn about the discipline of cultural anthropology. For many students, I suspect, the transhumanists described in this book will feel less like radical "Others" and more like prescient visionaries who are already actively shaping their social and personal realities. As such, it seems even more imperative to explore transhumanist understandings of the world and "include them in the consultable record of what man has said." This book, therefore, has pursued two aims. It has sought to familiarize students with the discipline of cultural anthropology by providing an illustration of what it means to "think like an anthropologist" (Engelke 2018). And it has sought to provide anthropological insight into a group of technovisionaries who are likely to play a key role in shaping the future students will inherit. In this concluding chapter, I would like to speak on each of these issues and briefly summarize some of the central arguments, findings, and questions I have arrived at through this study.

The Comparative Study of Humankind

Today, numerous attempts are being made to rethink the object of anthropological analysis and decenter the human from its purview. Scholars have become increasingly interested in how human social life is entwined with and affected by nonhuman actors and agents. Whether this research is advanced under the name of a posthuman anthropology, cyborg anthropology, actor-network theory, or the multispecies turn, the message is more or less the same: anthropology should no longer be limited to the comparative study of humankind. In a world where microbes, machines, vibrant matter, and species of various sorts actively configure human worlds, our analytic gaze needs to be broadened.

I am intrigued by this research and I agree there is an important place in anthropology for thinking beyond the human. Moreover, given the fact that transhumanists themselves are devoted to ushering in a posthuman existence, one might propose that such perspectives would have been far

more appropriate to deploy than the admittedly old-fashioned "back to the future" approach I took to in this book. However, I became a cultural anthropologist because I was first and foremost interested in people, and as Geertz puts it, learning "to converse with them."

This book may not be the product of extended fieldwork in the traditional sense of the term. It did not involve establishing intimate acquaintances with transhumanists on a daily basis over a prolonged period of time. However, it has been an earnest attempt to understand the world from transhumanists' point of view; to unearth what anthropologists call "the emic" or insider perspective by putting their various initiatives in conversation with some traditional concerns in cultural anthropology. In doing so, writing this book has enabled me, and hopefully readers, to shed that initial feeling of "strangeness" and more sensibly partake in the conversations that transhumanists are having about the world and the future they hope to create.

In this book, I have argued that whether one's research involves fieldwork or not, a mode of inquiry that is premised upon and contributes to the comparative study of humankind is anthropological through and through. Moreover, this book can and should be read as an argument for *reclaiming* the comparative perspective as a central and defining mode of anthropological inquiry. As I have tried to demonstrate, the comparative perspective is valuable for multiple reasons. First, as the sociologist C. Wright Mills sagely advised in his essay on "Intellectual Craftsmanship," it offers a heuristic advantage. As Mills proposed, "Whatever the problem with which you are concerned, you will find it helpful to try to get a *comparative* grip on the materials." "The search for comparable cases," as well as "considering extremes – by thinking of the opposite of that with which you are directly concerned," will give "you leads" in your investigation (Mills 1958, 213–215).

For instance, by considering how the contemporary Transhumanist Movement is both like and unlike other revitalization movements studied by anthropologists, I was able to highlight the particular ways

Conclusion

transhumanism represents a "deliberate, conscious, organized effort by members of a society to construct a more satisfying culture" (Wallace 1956, 265). If other revitalization movements have been primarily concerned with ushering in a new and improved society, transhumanist attempts at revitalization call for nothing less than the reengineering of the species itself. For transhumanists, an overhaul of the social order is on its own inadequate because from their perspective, the primary issue standing in the way of our revitalization or "enhancement" is our biology.

Along similar lines, comparing the transhumanist attempt to achieve immortality through the technology of mindcloning with the ubiquitous practice of making of ancestors provided another means by which to highlight what is particular about the way transhumanists grapple with an enduring human dilemma, the presence of death. This, in turn, led to a consideration of the particular ways transhumanists understand and configure the self; it highlighted the ways transhumanists value innovation over tradition; it displayed their commitment to science and technology over religion; and it revealed the importance they place on individual autonomy rather than subordinating one's will and desires to the demands of the collective. Thus, it was precisely by asking how do transhumanist conceptions of revitalization, immortality, the good life, the self, the body, kinship, and the affluent society compare and contrast with the way that people living in other times and places have conceived of such things that I was able to more clearly identify what makes transhumanists and the Transhumanist Movement distinctive.

The second reason the comparative perspective is so central to the discipline of cultural anthropology is because it serves as a reminder of the plasticity of our species. While we are one kind, we are also many. Exploring the way different societies view, construct, and inhabit the world reminds us that there are indeed alternatives to our ways of being human. Marcel Mauss made this point in his 1925 essay, "The Gift: The Form and Reason for Exchange in Archaic Societies." Mauss was

deeply concerned with the way capitalist society subordinates human relationships to an instrumental calculus, and he hoped that the study of non-Western, "primitive" societies might remind people that there are alternatives to this system and to these ways of relating to our fellow human beings. He wrote, "It is our western societies who have recently made man an 'economic animal.' … For a very long time man was something different … removed from this constant, icy, utilitarian calculation" (Mauss [1925] 1967, 76). Thus, in comparing transhumanist understandings of the self, the family, the body, the economy, and even the good life with those found in other times and places, I, like Mauss, have sought to use the comparative perspective as a way to remind us that there are alternatives.

The visions and values transhumanists promote are but one of many possible ways of imagining and constructing a future. Not all societies would agree that the good life should involve abolishing pain and suffering or tirelessly enhancing the body to stave off aging and death. In the years going forward, keeping the alternatives in mind will hopefully contribute to a more robust dialogue and debate about what kind of future human beings want to *make* rather than merely inherit. Anthropology, therefore, can remind us that we need not resign ourselves to the visions that currently hold the greatest sway. By keeping other possibilities on the ethnographic table, anthropology can help people more consciously craft and consider the worlds they want to construct and be a part of. In this regard, this book has been an attempt to heed John Urry's call. As the eminent sociologist urged, "The future is too important to be left to states, corporations or technologists. Future visions have powerful consequences and social science needs to be central in disentangling, debating and delivering those futures" (Urry 2016, 7).

Last, but certainly not least, the comparative perspective also reminds us that amidst the many differences human beings exhibit, there are also similarities that all human beings share. Indeed, this is one of the things that has always delighted me most about studying anthropology. Though

transhumanists might combat their fear of death through the production of avatars rather than ancestors, they nonetheless struggle with the same existential dilemmas. Though transhumanists view the world through the lens of scientific rationality, like the Ojibwa whom Irving Hallowell studied at the turn of the twentieth century, they too display awe, fear, and ambivalence when they contemplate the future possibility of becoming dependent upon superintelligent, powerful beings. Transhumanists, as we have seen, advocate the right to morphological freedom and celebrate a "sovereign" skin, but for transhumanists too, the body is a pivotal site upon which the power of society is expressed. Thus, to reverse the formulation stated above, the comparative perspective is also important because it reminds us that while we are many, we are also one.

The Value of Ancestors

My "back to the future" approach to transhumanism has not only been an attempt to reclaim and foreground the value of the comparative perspective. It has also been an attempt to reclaim and foreground the value of listening to our anthropological "ancestors." In many respects, this book is intended to redress a concern raised by the anthropologist Richard Wilk. In a 2018 article entitled "The Tribe that Eats Its Ancestors," Wilk queried, "Why do so few of my students recognize the names of my own illustrious teachers, or most of the people who were considered essential reading when I was a student?… Now I fear that anthropology has grown in so many new directions that a good core course is impossible" (Wilk 2018, 1).

There are multiple answers to Wilk's question; however, my hunch is that one of the reasons so few students recognize the names of illustrious anthropology teachers from the past is that we live in a society and operate in an academic market that unreflexively equates the new with the good. While we have been socialized to think this way, for much of human history, this was not the case. For instance, in Elizabethan

England, it was the patina that slowly accumulated on an object over hundreds of years that increased its value (McCracken 1988). Likewise, in the realm of human "objects" and relations, maintaining ties with the past and "dialoguing with the dead" was considered absolutely essential to producing a healthy psyche and a fertile future (Vitebsky 1993). Acknowledging the ancestors, as we saw in Chapter 2, has provided many human societies with a way to orient themselves in the world, understand who they are, and secure meaningful connections across time and place.

By revisiting the works of some of cultural anthropology's most illustrious teachers, this book has tried to demonstrate that new is not always better. Listening to our disciplinary ancestors can still yield important insights about the worlds and people of the twenty-first century. Moreover, knowing our disciplinary past also helps us to recognize that that which seems novel is not necessarily new. As I have demonstrated in the preceding chapters, this applies to both ethnographic and academic domains. Not only do we find that transhumanist initiatives and desires echo longstanding human aspirations for immortality, a good life, and something called family. But when we begin to interrogate some of the ideas in anthropology that are presented as radically new, we often find that such ideas have earlier precedents. For example, in many ways, the central premises of the "ontological turn" which took anthropology by storm at the turn of the twenty-first century had been elaborated by Alfred Irving Hallowell almost fifty years prior. In his 1955 essay "The Self and Its Behavioral Environment" and in his 1960 essay "Ojibwa Ontology, Behavior and World View," Hallowell made a powerful case for taking people's "culturally constituted behavioral environments" seriously and for not assuming that they operate with the same assumptions about the nature of being and reality – i.e., ontology – as we do. This example, moreover, proves more than an academic point. It also suggests that we operate in a society and again in an academic discipline where making a place for ourselves in the future often involves forgetting or in some

cases even willfully obscuring the past. Thus, how we make room for ourselves in the future, both as academics and beyond, is an eminently political act.

The Transhumanist Movement

Having examined transhumanist understandings of revitalization, immortality, the good life, the body, kinship, and the economy, we are now in a better position to answer one of the key questions with which this book began. Exactly what kind of future do transhumanists envision? The posthuman future envisioned by transhumanists is one in which technology plays a paramount role in the constitution and organization of both the species and society. As I have noted, transhumanists vary in terms of their political and ideological orientations, and they do not always agree on how an enhanced posthuman future might best be achieved. But despite these differences, *all* transhumanists are committed to a vision of the future in which science and technology enable us to transcend our current condition and surpass our biological limitations. They all envision a future in which technologically enhanced superbeings have the potential to transcend the limits of the earth as well as radically expand the capacities of the human body and mind. Posthuman beings may even be able to borrow from the phylogenetic tree, creating bodies that blur the boundaries of different species and organisms. Stronger, faster, freer, smarter, that is the credo that animates transhumanist imagining of the future; with science and technology at their command, transhumanists view the universe and the future itself as their "oyster."

Moreover, while transhumanists celebrate the autonomy of the individual, their vision of the future is not devoid of sociality. They propose that posthuman sociality will include sharing the universe with a range of "other-than-human persons" (Hallowell 1960), who will be as deserving of rights and citizenship as all humans (are supposed to be)

today. In more optimistic moments, transhumanists also propose that posthuman beings will find new ways to work together and through their ingenuity, magnanimity, and entrepreneurial prowess, achieve unprecedented levels of abundance, raising the global standard of living for all. They envision a future where posthuman beings will be able to use psychopharmacology and genetic engineering to forge ever more empathic connections with others, thereby heightening their capacity for social bonding and even more exalted forms of aesthetic and spiritual experience. Instead of enduring the pain of loss and separation, transhumanists propose that mindcloning technologies will make it possible for posthumans to maintain connections to family and friends for a virtual eternity. With the development of neural implants, transhumanists argue that posthuman beings will enter into new forms of symbiotic relationships with machines. Rather than being displaced by them, they will merge together in productive harmony.

This, at least, is the optimistic vision of the future that transhumanist project. In more gloomy moments, transhumanists also recognize potential pitfalls and tensions in their own project and movement. For instance, transhumanists James Hughes and Zoltan Istvan, both propose that the path to a posthuman future could be fraught with violence and discord. As noted in Chapter 1, both Hughes and Istvan anticipate serious conflict between transhumanists who are committed to using technology for the purposes of radical human/posthuman enhancement and Christian "bioconservatives" who are adamantly opposed to tinkering with human nature. As Hughes warns, "With all sides, secular and religious, Left and Right, believing that the future of humanity hangs in the balance, the prospects for violent confrontation are rising" (Hughes 2008, 2012, 758).

Tensions also exist within and among members of the Transhumanist Movement. As we saw in Chapters 4 and 7, although all transhumanists embrace the power and potential of technology, ideologically and politically they are deeply divided. The wealthy, libertarian, free-market

capitalists operating in Silicon Valley typically dominate coverage of the Transhumanist Movement in the United States and have achieved, as Hughes puts it, "a hegemonic hold" over the community. For these transhumanists, enhancing the species and maximizing profits are part and parcel of the same mission. As Peter Diamandis proposes, "the world's biggest problems also present the world's biggest business opportunities." Indeed, Singularity University has become one of the key institutions for turning transhumanist enhancement initiatives into billion-dollar industries. While the anthropologist David Valentine is correct in pointing out that "it is actually this promise of a radically transformed human social future" that underwrites many transhumanist initiatives, in my assessment, the profit motive is as important to transhumanists like Diamandis as are "cosmological commitments" (Valentine 2012, 1047). As we saw, for Diamandis, going "Bold" is not just about reaching for the stars; it is also about generating "billions of dollars of worth of value."

Transhumanists like Diamandis are confident that new technologies, entrepreneurial innovation, technophilanthropy, and free-market capitalism can pave the way to a society of abundance for all. However, technoprogressives such as James Hughes propose that without the proper governmental regulations in place, the future is more likely to be filled with pervasive inequality and social unrest. In his efforts to dislodge "the hegemonic hold" of the Silicon Valley elite, Hughes, along with other transhumanists who embrace socialist values and policies, have been advocating for a "democratic transhumanism" that regulates and oversees the development of technology and tries to ensure that its "fruits" will be shared by all. As I proposed in Chapter 7, the ideological tensions animating the Transhumanist Movement are in part worth exploring because they are reflective of larger schisms within contemporary US politics.

Moreover, it is not just ideological tensions that animate the Transhumanist Movement and project but also ones that are more

internal, that stem from the very initiatives transhumanists seek to promote. For instance, will the technologies transhumanists develop end up enhancing and enriching posthuman beings or displacing and even possibly destroying them? As we have seen, transhumanists propose we need to prepare for the possibility of "catastrophic success" (Drexler 2013). They are quite attuned to the existential risks that permeate their efforts to develop superintelligent AI and thus caution that we need to do everything in our power to stave them off. Visions of gloom and doom are never too far behind transhumanists' sunny optimism.

And yet, while transhumanists can articulate these risks and tensions quite easily, there are still others that appear less frequently on their radar. One of the more interesting tensions that permeates the transhumanist worldview is a tension between the transhumanist tendency to celebrate the autonomy and agency of the individual while at the same time extolling the virtues of technologies that will increasingly usurp the need for such agency. This, for instance, was put on display in Chapter 3, when I discussed David Pearce's writings on the Hedonistic Imperative. As Pearce pointed out, the "traditional" way to be funny is to write and crack better jokes; however, in the posthuman future, being funny will involve identifying and amplifying certain neural pathways in the brain that make people more receptive to one's jokes. Thus, although the transhumanist worldview exalts the agency and autonomy of the individual and the unique ability of human beings to "transcend" their given conditions, the future they sometimes paint suggests a world where individual agency and creativity is sacrificed in the name of greater efficiency. No need to struggle through making sense of a painful past if one can have their hedonic treadmill reprogrammed to achieve eternal bliss. No need to meditate for hours on end if one can use psychopharmaceuticals to achieve a chemically induced enlightenment. Perhaps in the future, posthuman beings will not be as preoccupied with agency and autonomy as are the transhumanists who currently seek to usher the posthuman species in.

Conclusion

The tension between celebrating the autonomy and agency of the individual and striving for a future where increasingly other forces and technologies work *through* us can again be gleaned in the differing views of Ray Kurzweil and David Pearce. As we saw, in many respects, Kurzweil's view of the world is still an anthropocentric one that champions and even hypervalues Enlightenment virtues of reason, rationality, and human mastery. Although he envisions a future in which human beings will increasingly merge with machines, for Kurzweil, this will lead to an enhancement of our humanity rather than its effacement. As Kurzweil maintains, human beings are the kinds of creature who continually strive to transcend their conditions, and the most "powerful force" driving their transcendence is their capacity to generate and benefit from revolutionary ideas. He proposes, "There will be no distinction, post-Singularity, between human and machine or between physical and virtual reality. If you wonder what will remain unequivocally human in such a world, it's simply this quality: ours is the species that inherently seeks to extend its physical and mental reach beyond current limitations" (Kurzweil 2005, 9).[1] By contrast, in Pearce's view of the world, human beings are mere "vehicles" who are "manipulated" and "thrown away" by the real agents of history and evolution – genes.

There is also an interesting tension between the values placed on objective and subjective experience in the transhumanist worldview. For while transhumanists are ardently committed to using "objective," empirical, rational science to better understand and master the world around them, they also propose that in the future, technology will make it possible for each of us to increasingly pursue our subjective preferences. As David Pearce again proposes, in the future, posthuman beings will have the freedom to choose what kinds of experiences they want to have and what objects will bring them pleasure or arouse their desires. As he asks, "what if neural enhancement technologies could controllably modify our aesthetic filters so we could see 80-year-old women as sexier than 20-year-old women?" (Pearce 2008, 14). Paradoxically, therefore,

transhumanists advocate using "empirical," "objective" science to usher in a world where catering to subjective preferences may increasingly rule the day.

Most significant, from my perspective, is the tension between the transhumanist pursuit of technological enhancement and morphological freedom, on the one hand, and their capacity to contribute to new forms of *technonormativity* and social control on the other. As we saw in Chapter 4, transhumanists are staunch proponents of morphological freedom and they are committed to protecting the rights and freedoms of individuals to modify and "enhance" their bodies with technology. They unequivocally believe that these technological enhancements will enrich individuals' lives in the future and render them more capable in manifold ways. They also maintain that because each individual will have "the right" to choose what to do with one's body (including the right to refuse modifications), such enhancement initiatives will in no way be coercive. But as I pointed out earlier, this vision of the future rests on an inability to recognize one of the key tensions in their own liberal arsenal of beliefs – the tension between rights and values. While transhumanists speak of rights as things to be "defended," they also treat rights as unflappable rudders that enable the individual to remain steadfast in their personal convictions regardless of what society thinks. In this regard, in terms of intellectual influences, Durkheim is clearly not on their radar; the convictions of the rights-bearing individual trump the power, force, and values of the collective just about every time.

I proposed that this particular understanding of the relationship between individual rights and collective values may help explain why transhumanists can so easily frame their initiatives as part of an emancipatory project rather than view their efforts as a potentially coercive attempt at "normalization" (Foucault [1977] 1995). And yet, despite their own self-understandings, transhumanist initiatives are *not* just about liberating us through the promises of technology, they are also about establishing new standards of technonormativity that

will have profound consequences for how subjects and societies will be disciplined and stratified in the future. Indeed, their initiatives raise critical questions about the role technologies will play in the production and reproduction of inequality. While gender scholars have long deployed the concept of heteronormativity to highlight the complex of cultural, legal, and institutional practices that maintain normative assumptions about gender and perpetuate inequality between men and women, anthropologists of the future will have to consider how "the matrix" of *technonormativity* is reconfiguring assumptions about what it means to be a human or rather "a posthuman" who "measures up" (Butler 1990; Collins 2000).

Lastly, as I have alluded to above, within the Transhumanist Movement, there is an interesting tension between the extreme optimism and the gloom and doom that animate transhumanist visions of the future. While some transhumanists do try to walk a cautious middle path, many assume one or the other of these extreme perspectives or they oscillate back and forth between them. The future will be either all good or all bad, technology will save or destroy us, we will use technology to usher in a paradise on earth or it will ultimately obliterate the planet itself. I suspect that this tendency to view the future in such polarized terms may indeed be one of the ways transhumanists defend against a future that is neither all good nor all bad but rather fundamentally uncertain. As psychoanalysts have long observed, this kind of "splitting" is a classic and ubiquitous means by which human beings deal with and defend against anxiety and ambivalence (Klein [1946] 1987, [1948] 1975). For instance, instead of dealing with the positive and negative feelings a person has toward another, they might oscillate between extremes, proclaiming one day, "Oh, my boyfriend is a such a hero!" and then lamenting the next day, "Oh my boyfriend is such a zero!" While such psychodynamics can be observed in many contexts, when examining the case at hand, we might consider how the transhumanist tendency to parse the future in such polarized terms, as either utopic or catastrophic, may also become

an active force in the way our future gets made. Perhaps, promoting the middle path, the road of cautious optimism, and relating to the future as a "whole object" with both good and bad possibilities is the most likely way for us to build a future we actually want to inhabit.

The Power of Technology, Technologists, and the Technological Imagination

This returns us to three more questions with which this book began: How are new forms of technology reconfiguring human life in the twenty-first century? How are technologists assuming an ever-greater role in shaping the future of our species? And more specifically, how does "the technological imagination" become a powerful force in the making of social lives and futures (Balsamo 2011; De Lauretis et al. 1980)?

As the range of transhumanist initiatives makes clear, technology stands to reconfigure just about every aspect of human life in the twenty-first century. Transhumanists do not advocate a piecemeal approach to integrating technology into our lives and bodies but rather a *totalizing* one. This is one of the reasons why they provide such a fruitful entry point for considering these questions.

As we have seen in the preceding chapters, transhumanists propose that technology stands to radically reconfigure the physical environments in which our descendants will dwell. Whether it be cyberspace or outer space, transhumanist propose that the posthumans of the future will no longer be limited to the physical material realms of earth. Technology will also radically transform the way posthumans absorb and process information. The use of neural implants that connect to larger information systems could make it possible for posthuman beings to have instant recall to unprecedented amounts of information. Through the use of psychopharmacology and genetic engineering, posthuman beings will also develop and experience very different kinds of emotional lives. Technology will also transform the way posthumans

form relationships with others and even reproduce offspring. No longer will it be necessary for a male and female to actually copulate, but in vitro fertilization and ectogenesis will make it possible for conception and reproduction to take place outside the womb, and if desired, with genetic contributions from multiple genitors. Finally, the development of new forms of nanotechnology are projected to revolutionize the way posthuman beings will produce the necessities of life, and this, in turn, is likely to transform the way the means of subsistence are distributed to members of posthuman society. If human beings are increasingly displaced by machines from the process of production, they will require some kind of guarantee that they will still be able to access the goods they need to survive.

Of course, the degree to which such transformations are actualized has much to do with the power and ability of technologists to recruit resources for developing these technologies and to recruit social and political support for actualizing their visions of a future technoutopic society. When we look at the Transhumanist Movement, we find a number of ways that transhumanists and technologists are attempting to augment their power and influence in society. First, we have seen that in places like Silicon Valley, technoutopic visions are actively being translated into opportunities for capital investment, and in the process, entire industries are emerging around ideas that were once thought to be the stuff of science fiction. For instance, the "race to unlock the 'immortality gene'" or pursue immortality through the use of new biotechnologies, artificial intelligence, and mindcloning techniques is attracting millions of dollars of investments from biotech startup companies and venture capitalists in Silicon Valley who have now been dubbed, "The Immortality Financiers."[2] Elon Musk, Peter Thiel, Martine Rothblatt, Amazon's CEO Jeff Bezos, former CEO of Google Bill Maris, Google cofounder Sergey Brin, and Oracle cofounder Larry Ellison have all invested heavily in the science of radical life extension and they enthusiastically proclaim that immortality is no longer an unattainable dream, but rather a technical problem that

can be "solved" or "conquered."[3] For those involved in the immortality "race," the anticipated promise of such initiatives is not just rejuvenated bodies and eternal life but also staggering profits. It is estimated that by the year 2022, the antiaging biotech industry in Silicon Valley stands to gross $85.6 billion dollars.[4]

Moreover, through establishing institutions like Singularity University or the XPRIZE Foundation, transhumanists are playing an integral role in facilitating the accumulation and *concentration* of capital among an increasingly influential technoentrepreneurial elite. As transhumanists and technologists increase their economic power, they also increase their political influence. One need only consider the role that billionaire entrepreneur and self-professed transhumanist Peter Thiel played in the 2016 US presidential election. Not only was Thiel one of the keynote speakers to endorse Donald Trump in a televised broadcast at the Republican National Convention.[5] But in the wake of the election, and after contributing $1.25 million dollars to the Trump campaign, Thiel was appointed as a member of Donald Trump's postelection "transition team," gaining access to one of the highest corridors of power in the world.

Transhumanists and technologists are also assuming a greater role in shaping the future of the species by challenging the traditional institutions that once dominated and controlled the development of science and technology. For instance, as discussed in Chapter 5, self-professed "grinders," "bodyhackers," and "scrapheap transhumanists" see themselves as part of a growing citizen science movement that rejects that idea that developments in science and technology should require "laboratories and large bank accounts." They argue that new technologies should be open sourced and not commodified for the purposes of profit. Silicon Valley entrepreneurs are equally committed to radically redistributing the balance of power in the fields of science and technology, but they do so by using incentive prizes to lure the most talented technological minds away from the academy and into their

startup companies. Foundations like the XPRIZE or Peter Thiel's "20 under 20" fellowship are explicitly designed to recruit those who stand to make major technological breakthroughs in an industry and then use those breakthroughs as a means to accrue unprecedented profits.

Thus, as transhumanists become increasingly successful at translating their ideas into profitable tech industries, their influence in society is clearly increasing. However, it is not just the growing purse strings and political clout that make transhumanists so influential. It is equally important to appreciate how the transhumanist technological imagination has become an active force in the making of social lives and futures. For while transhumanist visions of the future are clearly being impacted by technologies already in existence, it is also the case that many of the technologies they envision and promote have yet to be actualized. As Anne Balsamo puts it, the technological future they anticipate is in many ways first being "produced" in "their imaginations" (Balsamo 2011, 52). In a similar vein, James Herrick has proposed that the ability to produce and circulate rhetorically persuasive myths and narratives of a future technological transcendence is just as key to the development of the Transhumanist Movement and their influence as are the actual technological advances transhumanists develop and promote. "Crafting and propagating a compelling future-vision," he argues, "is an undertaking that, when accomplished with rhetorical skill, affords proponents (of transhumanism) a degree of cultural influence out of proportion to their actual numbers" (Herrick 2017, 4).

Indeed, as we have seen throughout this book, and as befits a conclusion that ends with a testimony to the power of the technological imagination, transhumanists themselves almost unanimously credit their visions and successes to the technological imaginations of science fiction authors. As noted in Chapter 7, Peter Diamandis' driving mission in life has been to turn science fiction into "science fact." He proposes that it was precisely the works of science fiction authors that provided him with a "compelling future-vision." To revisit his remarks:

If I think about who my mentors have been, they have been the characters in science fiction novels. They've been the works of Heinlien, they've been the works of Roddenberry. They are the people who see the world as it could or should be and then paint that picture so vividly that you want to go out there and make it happen. And that's driven me all my life…

The technological imagination, therefore, does more than provide an entertaining diversion from the "reality" of life. It inspires people, in this case very powerful ones, to create realities in accordance with particular visions of the world as it "could or should be." Transhumanists are at the forefront of making these visions a reality. Therefore, much could be gained from trying to understand the values, beliefs, and practices that animate their visions of the future. Alternatively, much could be lost by dismissing these visions as the "stuff of science fiction." The question we must all ask now is what kind of world, what kind of future do we want to create? This is a question that should not and cannot wait.

Notes

Introduction

1 More also writes: "When transhumanists refer to 'technology' as the primary means of effecting changes to the human condition, this should be understood broadly to include the design of organizations, economies, polities, and the use of psychological methods and tools" (More and Vita-More 2013, 4).

2 In an essay entitled "Why I Want to be Posthuman," Nick Bostrom writes: "I shall define a *posthuman* as a being that has at least one posthuman capacity. By *posthuman capacity*, I mean a general capacity greatly exceeding the maximum attainable by any current human being without recourse to new technological means." These capacities refer to the domains of "healthspan," "cognition," and "emotion" (Bostrom 2013, 28–29).

3 Indeed, in a recent article entitled, "The Tribe that Eats Its Ancestors," the eminent anthropologist Richard Wilk laments:

> so much of our ancestors' work and passion, lifetimes of effort and wisdom, has disappeared … their writings are buried under the weight of later work, only kept alive by a small community of their students and grandstudents … I feel like we have effectively killed and buried our intellectual ancestors, our older brothers and sisters … We graduate our students into a furious intellectual competition, driving them to claim a topic or specialty, while keeping up with the latest trends of current theory. We give them no rewards for staying grounded in the history of anthropology or keeping in touch with the full breadth of the discipline. (Wilk 2018, 2)

4 As Stuart McLean has noted, "imagination has been added to the lexicon of the social sciences" (McLean 2007, 5). Over the past several years there have

been numerous attempts by anthropologists to foreground the imagination as an analytic and ethnographic category, and to explore the effects of various "technologies of the imagination" (Sneath, Holbraad and Pedersen 2009). For further writings on the concept of the imagination, also see Gaonkar, Dillip and Benjamin Lee (2002), Gibson (2014), Humphrey (2009), Lohmann (2010), Leach, Nafus and Krieger (2009), Lee and LiPuma (2002), Robbins (2010), Stankiewicz (2016), Taylor (2002), and Wormald (2005).

5 This concern with the future reinforces an observation Claude Levi-Strauss made long ago in *Triste Tropiques* (1955) when he noted that phenomena become the focus of academic attention precisely when they are perceived as ending.

6 As R. U. Sirus and Jay Cornell note in their book, *Transcendence: The Disinformation Encyclopedia of Transhumanism and of the Singularity*, "This singular and oft-used putdown of the singularitarians was first used publicly by Ken MacLeod in his 1998 novel, *The Cassini Division*… In 2012, two uber-nerd favorite writers, Charlie Stross and Cory Doctrow, teamed up to write a science fiction satire titled *Rapture of the Nerds*" (Sirius and Cornell 2015, 195).

7 As Marc Edelman notes, "ideological differences" and "internal tensions" are "almost everywhere features of social movements" (Edelman 2001, 309). Also see Arturo Escobar (1992).

8 Bernstein writes:

An equally ethnocentric critique of transhumanism and, by association, all technofuturism points to its alleged libertarian politics, which are often linked with the so-called California Ideology of Silicon Valley, a variety of "dotcom neoliberalism" (Barbrook and Cameron [1995] 1996), as well as to the overwhelming maleness and whiteness of its adherents. In the Russian case, on the contrary, futurists hold diverse political views and the communities they form are generally not based on traditional politics. While political views within any given group can range widely, running the gamut from right to left, sometimes combining the two, libertarianism is a distinct minority position. (Bernstein 2019, 23)

9 For further discussion of the citizen science movement, see Curry (2014), Delfanti (2013), Ikemoto (2017), and Wildschut (2017).

10 Taken from grinder, Lepht Anyonym's talk "Cybernetics for the Masses." www.youtube.com/watch?v=PiR3WhtYl8g.

Notes

11 As More and Vita-More write, "In a widely cited 2004 article in *Foreign Policy*, political scientist and neoconservative Francis Fukuyama described transhumanism as 'the most dangerous idea in the world.' He expanded on this claim in *Our Posthuman Future: Consequences of the Biotechnology Revolution*" (More and Vita-Moore 2013, 419).

12 Geraci writes, "Given how profoundly the movement affects and may continue to affect our society, responsible social analysis demands that we understand Apocalyptic AI in its religious and technoscientific contexts" (Geraci 2010, 6).

13 Like Geraci, religious studies scholar, Hava Tirosh-Samuelson suggests that although transhumanists are often depicted as hyper-modern, secular rationalists, the Transhumanist Movement shares many affinities with religion. "Transhumanism," she writes, "expresses deep religious impulses in a secularized idiom of science and technology that previously has been taken to be in contrast to religion" (Tirosh-Samuelson 2012, 729). She proposes that transhumanism be viewed as "a secularist faith, a hybrid of secular and religious motifs: transhumanism secularizes traditional religious motifs on the one hand and endows technology with salvific meaning on the other hand" (Tirosh-Samuelson 2012, 719).

14 For instance, in her exploration of transhumanist Dimtri Itskov's Avatar Project Bernstein writes:

Often missed in the media coverage of the Avatar Project is that the creation of cyborgs is not the goal in itself for Itskov, and transcendence of the body is more than just "cheating death." The idea is not to get a commercial project going that will "propel legions of start-ups," as Segal would have it. Instead, Avatar is a conscious attempt to bring about a spiritual transformation (one might even say salvation) for oneself and others using technical means – an idea that resurfaces with impressive regularity in Russian immortalists communities, past and present. (Bernstein 2019, 52)

15 Abou Farman, for instance, remarks, "In writings about transhumanism, one problem has been that until recently few scholars or journalists had actually spent much time alongside transhumanist groups. My engagement with transhumanism came out of ethnographic work on technoscientific projects aiming to achieve immortality" (Farman 2019, 60).

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Chapter 1

1 Retrieved from https://humanityplus.org/philosophy/transhumanist-faq.

2 Retrieved from https://humanityplus.org/philosophy/transhumanist-faq.

3 In terms of the actions they perform, Wallace noted that revitalization movements choose between "secular and religious means." Wallace explained, "Secular action is here defined as the manipulation of human relationships; religious action is here defined as the manipulation of relationships between human and supernatural beings. No revitalization movement can, by definition, be truly nonsecular, but some can be relatively less religious than others, and movements can change in emphasis depending on changing circumstances" (Wallace 1956, 277).

4 For an outstanding review of the various critiques of Wallace's revitalization model, as well as the merits of still deploying it, see Harkin (2004).

5 In a 2010 paper entitled "Schismogenesis and Schismogenetic Processes: Gregory Bateson Reconsidered," Bjørn Thomassen makes an excellent case for the analytic utility of Bateson's concept of symmetrical schismogenesis in the political sphere, and points to the Cold War as an explicit example of this dynamic. Also, for another excellent illustration of symmetrical schismogenesis, see Bennett's analysis of the antagonism between the early twentieth-century Portuguese Republicans and the Cult of the Virgin of Fatima (Bennett 2012).

6 There were, however, also interesting lines of agreement between evangelicals and the early transhumanists. Both were staunchly anti-communist and ardent proponents of free market capitalism and both proposed neoliberal routes to salvation that primarily targeted the individual. Whereas the evangelicals were interested in saving individual souls, the transhumanists were focused on individual bodies, laying the path for a future "biotechtopia" (Farman 2012a) that was largely devoid of attempts to re-engineer society or remedy social problems.

7 It should also be noted that many have commented on the parallels and similarities between Christian conceptions of the future Rapture and the "Techno-Rapture" envisioned by transhumanists and Singulitarians such as Ray Kurzweil. See, for instance, Cole-Turner (2012), Herrick (2017), Hughes (2012), Geraci (2010), and Tirosh-Samuelson (2012).

8 Quoted in Whitfield (1996, 77).

9 "Meet the Extropians" by Ed Regis. *Wired Magazine*. October 1, 1994. Retrieved from www.wired.com/1994/10/extropians.

10 "Meet the Extropians" by Ed Regis. *Wired Magazine*. October 1, 1994. Retrieved from www.wired.com/1994/10/extropians.

11 Retrieved from www.hedweb.com/hedab.htm.

12 See http://anarcho-transhumanism.net/an-anarchist-transhumanist-manifesto.

Notes

13 Ted Talks have provided yet another important means for transhumanist visionaries to communicate their visions.

14 For more information on the conference, see http://transhumanismi.org/tv06.

15 Quoted in Hughes (2010, 7–8).

16 Retrieved from https://ieet.org/index.php/IEET2/about.

17 For further discussion of this project, see Bainbridge (2017, 216).

18 This statement needs to be qualified, for although transhumanists such as Hughes and Bostrom are advocating for a more diverse social movement that appeals not just to libertarian elites but to principles of social democracy and the disenfranchised, transhumanism in the United States does still remain a largely white, male, elite movement.

19 It is difficult to assess how many self-identified transhumanists there are. In his 2005 article, "A History of Transhumanist Thought," Nick Bostrom noted that the World Transhumanist Association had approximately 3,000 members (Bostrom 2005, 16). Others report they belong to transhumanist facebook groups with 10,000 members. See, for instance, www.quora.com/How-can-I-discover-approximately-how-many-transhumanists-there-are-in-the-world. In his study of the Transhumanist Movement, William Sims Bainbridge estimates that there are between 10 and 25,000 transhumanists worldwide (Bainbridge 2017, 210).

20 See article, "An Evangelical Fights to Make California Red: Delivering Jesus with a Political Message" by Elizabeth Dias. *New York Times*. May 28, 2017. Retrieved from www.nytimes.com/2018/05/27/us/politics/franklin-graham-evangelicals-california.html.

Chapter 2

1 As Stephen Cave notes in his sweeping history of the human desire for immortality, "The dream of some kind of life without end is a universal feature of human experience, common to all cultures across time and place – and still today driving us on toward new achievements that surpass even the pyramids" (Cave 2012, 3).

2 For Lifton and Olson, the fear of death really boils down to a fear of being disconnected from a vital flow of life beyond the self, and the quest for symbolic immortality is best understood as an attempt to stay connected; to achieve the sense that some part of us will live on in the great chain of being even after our bodies have decayed. Moreover, Lifton and Olson argued that a fear of death should not be confused with a denial of its reality. Although modes of symbolic immortality enable human beings to maintain a sense of connection to the world, they typically do so *without* "denying the reality of death." Indeed, Lifton

and Olson argued that when death is rendered symbolically meaningful, people have an easier time accepting its reality (Lifton and Olson 1974, 71).

3 They referred to these five modes of symbolic immortality as the biological mode, the creative mode, the theological mode, the natural mode, and the experiential mode of symbolic immortality.

4 As Hageman and Hill point out, within the anthropological literature, there is some discrepancy as to how ancestors should be defined (Hageman and Hill 2016, 5). In this chapter I follow Couderc and Sillander. They opt for a "broader understanding of the ancestor concept," and define ancestors as:

people who live on in memory of individuals, groups, or entire societies through what they have transmitted to them. They are beings from whom people trace genealogical or social ancestry, who stand in a constitutive relationship to them as influential predecessors without whom they would not quite be what they are or exist at all. They are important by in some fundamental sense enabling the existence of their successors. (Couderc and Sillander 2012, 12)

5 See, for instance, Bloch (1971), Goody (1962), Gluckman (1937), Hageman and Hill (2016), Fortes (1961, 1965), Radcliffe-Brown (1945), and Tatje and Hsu (1969).

6 While Fortes did not discount the relevance of Malinowski's observation that institutions such as ancestor worship were animated in part by a fear of death, he also argued that ancestor worship should not be reduced to such psychological functions or conflated with a worship of the dead. Fortes was much more interested in the sociological and structural functions that ancestor worship served.

7 This occurs among the Tallensi, and we find similar ideas and practices in Borneo. See Fortes (1965) and Sillander (2012).

8 See, for instance, Basso (1996), Bloch and Parry (1982), Kahn (1990), Keen (2016), Munn (1970), Retsikas (2007), and Stewart and Strathern (2005).

9 Retrieved from: www.minduploading.org.

10 Retrieved from The 2045 Social Initiative website: http://2045.com/ideology.

11 This reluctance to rely on others to achieve immortality may indeed be particularly salient among American transhumanists. For as Bernstein documents, in Russian transhumanism, which has been largely inspired by the works and thinking of Nikolai Fedorov, tremendous emphasis is placed on fulfilling one's duty to kin and ancestors. Indeed, Fedorov was hopeful that technology would ultimately make it possible for us to resurrect our ancestors, and he argued that "filial duty" and "the restoration of kinship" were crucial to ushering in a better world (Bernstein 2019, 60).

Notes

12 Elaborating on the concepts of mindclones, mindfiles, and mindware, Rothblatt writes:

The blessing of an emotional and intellectual continuity or immortality is being made possible through the development of digital clones, or mindclones: software versions of our minds, software-based alter ego doppelgängers, mental twins. Mindclones are mindfiles used and updated by mindware that has been set to be a functionally equivalent replica of one's mind. A mindclone is created from the thoughts, recollections, feelings, beliefs, attitudes, preferences, and values you have put into it. Mindclones will experience reality from the standpoint of whatever machine their mindware is run on. When the body of a person with a mindclone dies, the mindclone will not feel that they have personally died, although the body will be missed in the same ways amputees miss their limbs but acclimate when given an artificial replacement. In fact, the comparison suggests an apt metaphor: The mindclone is to the consciousness and spirit as the prosthetic is to an arm that has lost its hand. (Rothblatt 2014, 10)

13 This observation has been made by other scholars writing about transhumanism. For instance, in an article on New Space entrepreneurs, many of whom identify with the Transhumanist Movement, David Valentine (2012) argues that new space entrepreneurs are deeply committed to the idea of securing a human existence into the "deep future" and that anthropologists need to take their "cosmological visions" as seriously as their attempts to exploit new frontiers for profit. Abou Farman makes a similar point in his study of American Immortalists who are working to develop technologies for immortal life and suggests that they are indeed engaged in a project of "cosmic" self-making. He writes, "the reckoning of life on a cosmic scale, the everyday grappling with a larger existential purpose, is an emergent discipline around which new practices and affects are being formed, building what I call a 'cosmic self'" (Farman 2012b, 1082).

14 "Mind Uploading and The Question of Life, the Universe, and Everything" by Keith Wiley. Published online http://ieet.org/index.php/IEET/more/wiley20150720.

15 For other transhumanist writings on the mind as a pattern of information see Hayworth (2010), Koene (2013), Kurzweil (2005), La Torra (2011), Merkle (2013), Minsky (1985), and Wiley (2014).

16 For a discussion of transhumanists who anticipate this, see Geraci (2010, 88).

17 See Friend (2017).

Chapter 3

1 In some societies, living the good or "hip" life involves pursuing riches, power, or fame (Ho 2009; Kahn 2011; Munn 1992; Osburg 2013; Shipley 2013). Elsewhere, the emphasis is on cultivating physical and moral strength (Alter 1992). In many parts of the world, the good life comes from learning how to derive joy from simple living and nature's pleasures (Gould 2005; Kumar 1988). Alternatively, the acquisition of middle class "creature comforts" provides a means to happiness in numerous societies around the world (Chua 2014; Leichty 2003; Patico 2013; Pugh 2009). Elsewhere, however, a premium is put on sacrificing and suffering for the sake of others (Copeman 2009; Hewamanne 2008; Lynch 2007; Werbner 2011) or devoting one's self to God (Lester 2005; Luhrman 2012). Among secular British Humanists, by contrast, "being happy and being 'good without god' is a commitment to both pleasure and to progress" (Engelke 2016, 134).

2 For a review of this critique and the responses it elicited, see Barrett (2004).

3 In a 2011 interview, Pearce was asked why none of his writings were available in print format and he replied, "Printed books tend to gather dust. So until now I've only ever published online." See "Interview with David Pearce by Andreas" October 2011. Retrieved from www.hedweb.com/hedethic/interview-abolish.html.

4 H.I. Chapter 1, p. 1. Retrieved from www.hedweb.com/hedethic/hedon1.htm.

5 See "Transhumanism 2017: Towards a 'Triple S' civilization of Superlongevity, Superintelligence and Superhappiness. David Pearce Interviewed by Maitreya One." Retrieved from www.hedweb.com/transhumanism/interview-2017.html.

6 See "Transhumanism and the Abolitionist Project an Interview." *City Magazine*, January 2012. Retrieved from: www.hedweb.com/transhumanism/2012-interview.html.

7 Of course, not all Enlightenment thinkers shared this view of nature. Rousseau, for instance, romanticized life in a state of nature and argued that it was civilization that was wreaking havoc on the human condition.

8 In a 2014 talk entitled The Selfish Gene Explained, Richard Dawkins noted that he almost titled his book, *The Immortal Gene*. Retrieved from www.youtube.com/watch?v=j9p2F20a0_k.

9 It is interesting to see how Pearce's language has changed over the years. While his early writings very much reflected the influence of evolutionary biology and he spoke of human beings as "living vehicles for genetic replicators," his more recent writings reflect a greater influence from computing and informatics sciences. In his more recent work, human beings are repeatedly referred to as "biological robots." In fact, one might argue that Pearce's immersion in the discipline of evolutionary biology, which began as a teenager when he first

read Richard Dawkin's book *The Selfish Gene*, is part of what has made him so amenable to and interested in subsequent developments in the informatics and computational sciences. For as noted in Chapter 2, these disciplines have also played a role in advancing the idea that human beings are little more than patterns of information.

10 H.I. Chapter 2, p. 12. Retrieved from www.hedweb.com/hedethic/hedon2.htm.

11 For a detailed account of how transhumanists conceive of the shift from Darwinian to post-Darwinian evolution, see Ted Chu's (2014) *Human Purpose and Transhuman Potential: A Cosmic Vision for Our Future Evolution* and Simon Young's *Designer Evolution: A Transhumanist Manifesto.*

12 Not all transhumanists share such a deterministic view of the role biology plays in shaping what kinds of people we become. In fact, Martine Rothblatt explicitly rails against this idea in her writings on sex and gender (Rothblatt 2011). I come back to these differences in the conclusion.

13 H.I. Chapter 1, p. 2. Retrieved from www.hedweb.com/hedethic/hedon1.htm.

14 Pearce's conception of the wicked and disappointing aspects of human nature is reflective of a much more pervasive Western cultural orientation. In his essay, *The Western Illusion of Human Nature*, anthropologist Marshall Sahlins writes, "Time and time again for more than two millennia people we call 'Western' have been haunted by the specter of their own inner being: an apparition of human nature so avaricious and contentious that, unless it is somehow governed, it will reduce society to anarchy" (Sahlins 2008, 1).

15 There is an irony here, for although Pearce downplays the importance of social or cultural change as a means of creating a better future, he also argues that "the biggest obstacle" to ushering in a posthuman existence is not technological but rather "ideological." Transhumanists propose that "bioconservatives" of various stripes are continually thwarting their efforts to engineer a better future because transhumanist initiatives challenged their ideas about what is right, sacred, and good.

16 H.I. Introduction, p. 3. Retrieved from www.hedweb.com/hedethic/hedonist.htm.

17 H.I. Chapter 1, p. 8. Retrieved from www.hedweb.com/hedethic/hedon1.htm.

18 In his article, "Positive and Negative Models of Suffering: An Anthropology of Our Shifting Cultural Consciousness of Emotional Discontent," James Davies argues that the positive values attributed to suffering throughout much of the eighteenth and nineteenth centuries, which viewed experiences of suffering as a means of self-growth and knowledge, have increasingly been replaced by "negative models" of suffering, which propose that suffering is something to be eliminated, rather than learned from (Davies 2011).

19 In *The Deepest Sense: A Cultural History of* Touch, Constance Classen also writes of the many "moral uses" of pain in the Middle Ages (Classen 2012).

20 H.I. Abstract. Retrieved from www.hedweb.com/hedab.htm.

21 H.I. Introduction, p. 3. Retrieved from www.hedweb.com/hedethic/hedonist.htm.

22 H.I. Chapter 2, p. 2. Retrieved from www.hedweb.com/hedethic/hedon2.htm.

23 H.I. Chapter 3, p. 4. Retrieved from www.hedweb.com/hedethic/hedon3.htm.

24 H.I. Chapter 1, p. 10. Retrieved from www.hedweb.com/hedethic/hedon1.htm.

25 H.I. Introduction, p. 2. Retrieved from www.hedweb.com/hedethic/hedonist.htm.

26 H.I. Chapter 1, p. 9. Retrieved from www.hedweb.com/hedethic/hedon1.htm.

27 H.I. Chapter 4, p. 36.

Chapter 4

1 This is a point that has been made many times over. See, for instance, Bourdieu (1984), Elias (1994), Foucault ([1977] 1995), Martin (1990), Mauss ([1934] 2007), and Sahlins (1976a).

2 For other studies of "modern" or "neo-primitive" practices of body modification, see Atkinson and Young (2001), Horton (2013), Klesse (1999), Pitts (2003), and Turner (1999).

3 Numerous scholars have observed that in the context of late modernity, the body and body work become central to the reflexive project of self-making and the "fashioning of identity." See, for instance, Dziuban (2007), Featherstone (2010), Giddens (1991), and Van Wolputte (2004).

4 Retrieved from www.youtube.com/watch?v=i4ex52LYDe8.

5 "Sydney bio-hacker who implanted Opal Car into hand fined for not using valid ticket" by Lily Mayers, March 16, 2018. Retrieved from www.abc.net.au/news/2018-03-16/opal-card-implant-man-pleads-guilty-transport-offences/9555608.

6 Indeed, Musk has been a generous funder of Brain Gate, one of the companies that is pioneering this research. See "Hacking the Brain: The Future Computer Chips in Your Head." July 10, 2017, by Jeff Stible, *Forbes*. Retrieved from www.forbes.com/sites/jeffstibel/2017/07/10/hacking-the-brain/#cbe319c20090.

7 "Would YOU implant lights under your skin? Bizarre trend sees people transform themselves into glowing cyborgs" by Ellie Zolfagharifard. *The Daily Mail* November 11, 2015. Retrieved from www.dailymail.co.uk/sciencetech/article-3314388/Would-implant-lights-skin-Bizarre-trend-sees-people-transform-glowing-cyborgs.html.

8 In her essay, "The Hybronaut Affair: A Ménage of Art, Technology and Science," Laura Beloff develops the concept of "the hybronaut" to:

emphasize, cross and further blur the borders of technology and the human…. The Hybronaut proposes an "action" state of a human, whose existence and identity are deeply intertwined with its networked hybrid environment. It is understood as an entity which is constructed of physical, social, technological, and other relations formed in a hybrid environment, which suggests a perception of a human as a system that breaks away from thinking of a human as a clearly framed whole with defined borders. (Beloff 2013, 87)

9 "Cybernetics for the Masses." YouTube talk. Retrieved July 19, 2019, from www.youtube.com/watch?v=a-Dv6dDtdcs.

10 "Biohacking/Grinder Update: Tim Cannon Implants Circadia 1.0" by Peter Rothman. October 21, 2013. *Humanity + Magazine*. Retrieved from http://hplusmagazine.com/2013/10/21/grinder-update-tim-cannon-implants-circadia-1-0.

11 Taken from www.abc.net.au/news/2017-02-23/biohackers-transhumanists-grinders-on-living-forever/8292790.

12 As Fernbach observes, "In popular culture the technoman's home is science fiction. And it is SF that provides us with the most fascinating fantasies in which technology operates as fetish and prop for an imagined masculinity in postmodern and posthuman context" (Fernbach 2000, 2).

13 Retrieved from www.transpeciessociety.com.

14 For an interesting analysis of the transhumanist attempt to "enhance brains," see Herrick (2017).

15 In his essay, "Brain Gain," which explores the transhumanist pursuit of cognitive enhancement, neuroscientist Steven Rose makes a similar observation. He writes: "One of the most conspicuous features of current social thinking is the tendency to transfer complex social problems to the level of the individual. The person, and not the social context, becomes the focus of treatment" (Rose 2006, 73).

16 Retrieved March 7, 2018, from https://neurohacker.com/ethos.

17 Retrieved March 7, 2018, from https://neurohacker.com/ethos.

18 Retrieved March 7, 2018, from https://neurohacker.com/ethos.

Chapter 5

1 Pearce (1995). Chapter 1, p. 18.

2 It is difficult to provide a clear genealogy of the anthropological interest in the self. In part, the difficulty stems from the fact that there has been little agreement as to how the self should be defined, and how it differs from categories such as the person, identity, subject, and subjectivity. Indeed, in his 1955 essay, Hallowell

himself alluded to the "impossibility" of "escaping" the terminology dilemma "presented by the absence of any standardized usage" (Hallowell 1955, 80). In the many years since the publication of Hallowell's essay, one could argue that this dilemma has only grown worse. However, nonetheless, there are definite lines of inquiry that can be traced through the literature. See, for instance: Folgeson (1982), Ortner (2005), Van Wolputte (2004), Quinn (2006), and Whittaker (1992). One could, for instance, trace the anthropological interest in the self, back to the work of sociologist George Herbert Mead, who, in 1913, argued that "the self is not initially there, at birth, but arises in the process of social experience and activity" (Mead [1913] 1967). Mead was interested in exploring the social processes by which the self develops over time. In his 1939 seminal essay "A category of the human mind, the notion of person; the notion of self," Marcel Mauss set out to explore how the concept of the self has "slowly evolved" and he traced "the succession of forms that this concept has taken on in the life of men in different societies" (Mauss [1938] 1983, 3). In the 1950s, Erving Goffman not only explored the consequences of living with a spoiled identity (1963a), he also developed a dramaturgical approach to the self, arguing that the self is something that is performed in everyday life (1959). In the 1970s and 1980s, in many ways inspired by the work of French sociologist Louis Dumont (1970), anthropologists became increasingly interested in delineating the differences between conceptions of the self in "traditional" and non-Western societies, which were variously described as sociocentric, dividual, or partible, and ego-centric conceptions of the self, which were regarded as characteristic of Western societies where possessive individualism is valued (Fortes 1987; Geertz 1973; MacPherson 1962; Marriott 1976; Shweder and Bourne 1984; Strathern 1988). This way of essentializing and parsing the self has since been problematized and critiqued by a number of anthropologists on the grounds that it overlooks important similarities between the way people in the West, and those in "rest," conceive of the self. (Battaglia 1995; Carsten 2004; Ewing 1990; Golub 2004; Kusserow 2004; Mageo 2002; Quinn 2006; Sökefeld 1999). In the 1970s and 1980s, Michel's Foucault's work also played an influential role in shaping the way anthropologists conceived of and studied the self, or rather "subject." Foucault's work led anthropologists to explore how subjects come to be constituted by different discourses and constellations of knowledge and power, and how these discourses, in turn, provide subjects with new ways of knowing themselves in a given historical context. See, for instance, Illouz (2008), Kondo (1990), and Mageo and Knauft (2002). Charles Taylor's monumental study *Sources of the Self: The Making of Modern Identity* has also been influential in furthering understanding of the way the modern subject, with a "sense of inwardness, freedom, individuality," has developed over time (Taylor 1992). Another line of inquiry has come from anthropologists who have

sought to understand the way the self emerges as a narrative process (Bruner 1991; Ochs and Capps 1996). Anthropological studies of the emotions, dreaming, magic, religion, illness, and suffering have also furthered research into the social construction of the self and subjectivity (Crapanzano 1980; Csordas 1994; Luhrmann 2001; Lutz 1988; Mageo 2003; Parish 2008; Stephen 1995).

3 As far as I understand it, the ontological turn, as promoted by scholars such as Phillippe Descola (2013), Eduardo Kohn (2013), and others, basically comes down to the idea that people living in other societies operate with different assumptions about the nature of reality and different assumptions about the kind of beings and entities that act within those realities. Instead of trying to explain away other people's beliefs, or posit that there are just different means of representing the same underlying reality, which, they contend, is ethnocentric from the outset, we should concede to the idea that there are multiple worlds or realities that exist and Western science should not have a monopoly on the truth of existence. For a good review of the ontological turn, see Paleček and Risjord (2012) and Holbraad and Pedersen (2017). In my assessment, Hallowell basically made this point by arguing for the existence and significance of the culturally constituted behavioral environment. Indeed, in the 1960s, Hallowell published a number of essays that would likely find a ready home in the ontological turn of today. See, for instance, "Ojibwa Ontology, Behavior and World View" (1960).

4 Ray Kurzweil echoes this position too, he says, "I describe myself as a 'patternist,' someone who views patterns of information as the fundamental reality" (Kurzweil 2005, 5).

5 Wiley defines the mind as "a distinct (unique), identifiable (residing within some notion of boundary, probably nonspatio-temporal in nature), labelable (capable of being indicated relative to others) cognitive instance; a specific person for all intents and purposes" (Wiley 2014, 15).

6 A further probe into the obsession with self-monitoring in the digital age comes from John Cheney Lippold. In *We Are Data: Algorithms and the Making of Our Digital Selves,* Lippold explores the way information systems and data tracking devices have given rise to a new form of "algorithmic identity." He shows how "algorithms assemble, and control, our datafied selves" and argues that "the knowledge that shapes both the world and ourselves online is increasingly being built by algorithms, data, and the logics therein" (Lippold 2017, xiii).

7 Nick Bostrom, by contrast, has written, "Transhumanism does not entail technological optimism. While future technological capabilities carry immense potential for beneficial deployments, they also could be misused to cause enormous harm, ranging all the way to the extreme possibility of intelligent life becoming extinct" (Bostrom 2003, 494).

8 Retrieved from www.diamandis.com/xprize.

9 Ray Kurzweil and Martine Rothblatt provide particularly apt examples of this rhetorical strategy.

10 While Martine Rothblatt frequently speaks of the posthuman future, she will also argue that technological developments such as mindcloning will lead to a "proliferation of humanity" in the future. As she states, "As each of us pursues our own, personal quest for a more enjoyable life via mindcloning, we are also helping to assure the survival of our species, albeit in the form of mindclones. The mindclones are humans because the mindclones are we. Hence, the coming proliferation of mindclones, and especially bemans, is also a proliferation of humanity" (Rothblatt 2014, 198).

11 Kurzweil's remarks here reinforce Jon Bialecki's observation that, "transhumanism, in its efforts to cajole or coerce humanity to move beyond its current physical form and intellectual commitments, is often glossed as a flavor of posthumanism. What is peculiar about transhumanism, however, is that it takes *anthropos* quite seriously. It is profoundly preoccupied with precisely humanity as an object, and as an agent of its own transformation or evolution" (Bialecki 2017).

12 Retrieved from www.independent.co.uk/life-style/gadgets-and-tech/news/elon-musk-artificial-intelligence-openai-neuralink-ai-warning-a8074821.html.

13 Retrieved from www.cnbc.com/2018/03/13/elon-musk-at-sxsw-a-i-is-more-dangerous-than-nuclear-weapons.html.

14 Indeed, in 2017, *Hau: The Journal of Ethnographic Theory* published two special issues devoted to the "Voicing the Ancestors." In the second issue, entitled "Voicing the Ancestors II: Readings in Memory of George Stocking," Pauline Strong contributed a piece entitled "Irving Hallowell and the Ontological Turn," in which she discussed how Hallowell's work anticipated and predated the ontological turn.

Chapter 6

1 As one transhumanist informant pointed out to me, the lack of attention given to family and kinship in transhumanist writings may also be a product of the fact many transhumanists are "childless men, and very few are social scientists or feminists." For instance, in the most recent 2007 survey of members of the World Transhumanist Association, it was determined 90 percent of the members were male and 55 percent of those male members were under the age of thirty-five. See https://ieet.org/images/uploads/WTASurvey2007.pdf.

Notes

2 As Nick Bostrom explains, "Transhumanists view human nature as a work-in-progress, a half-baked beginning that we can learn to remold in desirable ways" (Bostrom 2003, 493).

3 Rothblatt's description of the importance an appreciation for each other's bemes and characters is reminiscent of Anthony Gidden's discussion of "the pure relationship," which he argues is increasingly sought after among couples and friends in the context of late modernity (Giddens 1991).

4 Rothblatt discusses three different cyber-birth scenarios:

An individual births one or more mind-clones, and remains alive, collectively deciding to live with one regularly synchronized mind across multiple bodies, flesh and non-flesh;

An individual births their mind-clone only upon brain-death, by leaving instructions to awaken their mind-file with mindware, and thus feels they have never actually died because they have continuous existence as an organized set of mental information, albeit now only in non-flesh form;

A transbeman is born without a direct parental connection to a single flesh person, such as when two or more persons (flesh or non flesh) combine their bemes to create a new cyber-conscious entity, or when mindware is awakened and nurtured to acquire bemes of its own.(Rothblatt 2008, 102)

5 Rothblatt also contemplates the possibilities that "many bemans will have no interest in an ancient institution such as marriage." She says, "Indeed, it is possible that, as opponents claim, notions of fidelity or legalization of a chosen social partnership will be alien to the beman mind" (Rothblatt 2014, 206).

6 Retrieved February 25, 2019 from https://humanparagon.com/about -human-paragon.

7 As Robertson explains, "to be called a humanoid, a robot must meet two main criteria: it has to have a body that resembles a human (head, arms, torso, legs) and it has to act like a human in environments especially designed for the capabilities of the human body-like an office or a house" (Robertson 2007, 373). Robertson's work also points to an interesting irony. As Robertson notes, the word robot was coined by the Czech playwright Karel Capek from the word *robota* or forced labor. His play "R.U.R., Rossum's Universal Robots," which premiered in Prague in 1922, was about a factory in the near future, where synthetic slaves, or robots, were mass produced for export all over the world. However, the current robotics literature suggests that in the future, people will relate to robots less as "slaves" than as beloved companions.

8 He further suggests:

the practice of germ-line enhancement might lead to better treatment of people with disabilities, because a general demystification of the genetic contributions to human traits could make it clearer that people with disabilities are not to blame for their disabilities and a decreased incidence of some disabilities could lead to more assistance being available for the remaining unaffected people to enable them to live full, unrestricted lives through various technological and social supports. Speculating about possible psychological or cultural effects of germ-line engineering can therefore cut both ways. Good consequences no less than bad ones are possible. (Bostrom 2003, 500)

9 In an article entitled "Neuroenhancement of Love and Marriage: The Chemicals between Us," transhumanists Julian Savulescu and Anders Sandberg also foreground the importance of love as a core symbol of the posthuman family and more specifically the conjugal couple. In fact, they propose that in the future, couples will be able to reap the benefits from neuro science to enhance the love between them. As they write:

Targeted neuroenhancements can allow men and women to synchronize and co-ordinate their drives and desires, to better work together as a couple. Just as there is a physical and intellectual disability, there can be "marital disability" where a close relationship between two people becomes an impediment rather than a support … many relationships are disabled. Indeed, nearly 40% of them so disabled they terminate. We should utilize neuroscience as well as folk wisdom, crude drugs, history and literature to address this problem. Love is one of the fundamental aspects of human existence. It is to a large part biologically determined. We should use our growing knowledge of the neuroscience of love to enhance the quality of love by biological manipulation. (Savulescu and Sandberg 2008, 41–42)

10 For a useful discussion of the way Marxist and feminist anthropologists have furthered our understandings of the family as an eminently political domain, see Michael Peletz's review essay, "Kinship Studies in Late Twentieth-Century Anthropology" (Peletz 1995).

11 The twenty-nine-year-old, computer programmer and self-proclaimed DIY transhumanists and biohacker, Bryan Bishop, is working with his partner Max Berry to establish a startup company "focused on the production of designer

babies and human germline genetic engineering." They noted that "lab work has started" and "we have an initial parent-couple customer". See "The Bitcoin Baby Project" by Pete Shanks, published in 2019 in Biopolitical Times. Retrieved from www.geneticsandsociety.org/biopolitical-times/bitcoin-baby-project.

12 See, for instance, Istvan (2014a). Retrieved from www.wired.co.uk/article/time-to-restrict-human-breeding.

13 It is interesting to note that this stands in marked contrast to the emphasis placed on "filial duty" and the importance of kinship among many Russian transhumanists and Fedorovians. As Bernstein has observed:

This filial duty, as well as kinship more generally, is central to Federov's philosophy. He distinguishes between the condition of "kinship," or *rodstvo* and a condition that is "unbrotherly" (*nebratskoe*) or "unkin-ly" (*nerodstvennoe*). Unbrotherliness, according to Federov, is the ultimate cause of the "unpeaceful state of the world," while what is needed to bring about world peace is the "restoration of kinship". (Bernstein 2019, 60)

14 The main argument of this book was actually put forth in a 1972 essay Schneider wrote, entitled "What Is Kinship All About?" (Schneider 1972).

15 As Marshall Sahlins has observed, Schneider's critique actually ended up inspiring "numerous and enlightening analyses of kinship the world around by anthropologists who were explicitly indebted to Schneider's work" (Sahlins 2011a, 6). Also, for a review of the way that new forms of marriage and reproductive practices are reinvigorating anthropological studies of kinship, see Levine (2008).

Chapter 7

1 Retrieved from http://fortune.com/2014/03/20/worlds-50-greatest-leaders/.

2 Retrieved from www.diamandis.com/about.

3 Retrieved from www.diamandis.com/about.

4 He takes this quote from Matt Ridley, author of *The Rational Optimist*.

5 It should be noted that Singularity University attracts a select and elite clientele. Its week-long, immersive Executive Program, for instance, which is "intended for future-oriented senior influencers in business, government, and nonprofit sectors with the desire to have a positive impact at scale," costs $14,500 to attend. See https://su.org/programs/executive-program/?utm_expid=.fqIvUOzeRx23V8GUUVsEKw.0&utm_referrer=https%3A%2F%2Fsu.org%2Fprograms%2Findividuals%2F.

6 For further and more in-depth accounts of the role Stewart Brand played in shaping both counterculture of the late 1960s and the emerging cyberculture of Silicon Valley, see Binkley (2007), Fisher (2018), and Turner (2006).

7 It is important to note that Diamandis' hyper-entrepreneurialism and desire to make billions is not the only guiding logic in Silicon Valley tech-culture. As Adam Fisher chronicles in his book, *Valley of Genius: The Uncensored History of Silicon Valley as Told by the Hackers, Founders, and Freaks Who Made It Boom*, there are respects in which Silicon Valley does still emanate a countercultural ethos. Many of the people who were and are most instrumental in its development have noted that their primary concern wasn't with making money, but being creative, exploring ideas, making things that were cool and potentially useful to others. Diamandis too reflects this sensibility; however, as businessman and entrepreneur, he is "equally" interested in the "entrepreneurial possibilities" that the tech industry provides.

8 Over the last several years, an increasing number of scholars have begun to critically explore how corporations are extending their influence into various aspects of civil society under the auspices of "Corporate Social Responsibility" programs and practices. See, for instance, De Neve (2016), Foster (2014), Hardin (2016), Kuhn and Deetz (2008), Lampert (2016), Rajak (2011), and Visser (2008).

9 Diamandis and Kotler both liken and distinguish todays' technophilanthropists from the "robber barons" of the past. They point out that "while robber baron rapaciousness has received much attention, contemporary historians are in agreement: it was also these gilded age magnates who invented modern philanthropy" (ibid, 133). Diamandis and Kotler propose that "most of today's technophilanthropists," people like Warren Buffett, Bill Gates, and Jeff Skoll, "trace their roots" back to the philanthropy of steel magnate, Andrew Carnegie. In his essay, "The Gospel of Wealth" (which Bill Gates actually gifted to Warren Buffett), Carnegie attempted to answer the question: "What is the proper mode of administering wealth after the laws upon which civilization is founded have thrown it into the hands of the few?" (Diamandis and Kotler 2015,133).

However, instead of pausing to interrogate the "laws" that "throw wealth into the hands of the few," or delving more deeply into the history of rapaciousness that fueled the robber baron's wealth (and that might fuel that of technophilanthropists' today), Diamandis and Kotler primarily focus on celebrating their acts of charitable giving. They also bypass any discussion of how philanthropy operates as a potentially "antidemocratic… exercise of power" that can "undermine political equality" and "convert private wealth into the donor's preferred public policies" (Reich 2018, 5, 7).

10 Explaining this idea of "impact investing, Diamandis and Kolter draw from Matthew Bishop and Michael Green's 2009 book, *Philanthrocapitalism:*

Notes

How Giving Can Save the World. As Bishop and Green explain, "If they [the technophilanthropists] can use their donations to create a profitable solution to a social problem, it will attract more capital, far faster, and thus have a far bigger impact, far sooner, than would a solution based entirely on giving the money away" (Diamandis and Kotler 2014, 136).

11 It is interesting to note that in citing Matthew Bishop and Michael Green's 2009 book, Diamandis and Kotler mistakenly refer to the book's title as *Philanthrocapitalism: How the Rich Can Save the World,* rather than its title, *Philanthrocapitalism: How Giving Can Save the World.* The "slip" I suggest is more than incidental.

12 It is rather ironic that whereas Drexler was inspired by Feyman's essay, "There's Plenty of Room at the Bottom," Diamandis was inspired by Prahalad's essay, "The Fortune at the Bottom of the Pyramid."

13 Retrieved from https://futurethinkers.org/cyborg-buddha-james-hughes-transhuman-enlightenment. April 31, 2019. P.4–5 of full transcript.

14 Retrieved from https://futurethinkers.org/cyborg-buddha-james-hughes-transhuman-enlightenment. April 31, 2019. P.5 of full transcript.

15 Retrieved from https://ieet.org/index.php/IEET2/about.

16 Retrieved from https://futurethinkers.org/cyborg-buddha-james-hughes-transhuman-enlightenment. April 31, 2019. P.7 of full transcript.

17 Retrieved from https://futurethinkers.org/cyborg-buddha-james-hughes-transhuman-enlightenment. April 31, 2019. P.3 of full transcript.

Chapter 8

1 Abou Farman takes issue with those scholars who view transhumanism as an optimistic extension of humanism. He writes:

A number of scholars of post-humanity (such as Hayles and Wolfe) have argued that transhumanism is an unduly optimistic extension of humanism. I can't agree – not only is it not optimistic, it is not a humanism. Transhumanism is filled with the anxiety of extinction. It also is enthused enough about non-human flourishing that it marks a departure from humanism (besides, is anything more optimistic than humanism in its enlightenment mode?). Transhumanism's posthumanist stance is the continuation of enlightenment technoscience insofar as it centralizes human technology, even if it projects the technoscientific breakdown of humanity. However, insofar as its ideas and projected technologies propose an almost panpsychic collapse of mind

and matter, it pushes us beyond reductive materialist, secular and humanist arrangements, and points to some interesting new openings. (Farman 2017)

I somewhat disagree with this assessment for it overlooks the way that certain transhumanists, such as Kurzweil, encompass their visions of technological change within a broader category of the human that is defined in terms of its transcendent essence and nature. For Kurzweil, the Singularity doesn't represent "the technoscientific breakdown of humanity" but rather its enhancement and development into a more exalted form. As long as our species retains its impulse to transcend, it will remain human. Anya Bernstein makes a similar point when discussing the differences between transhumanists and posthumanists. She writes:

transhumanism might be seen as an "intensification of humanism" (Wolfe 2010, xv), "a type of hyper-humanism" (Ranisch and Sorgner 2014, 8), while posthumanism is more a critique aimed at dismantling the unsatisfactory notions involved in what is seen as the failures of humanism. … Unlike transhumanists, posthumanists disagree with the privileging of the human and attempt to decenter it "through its imbrication in technical, medical, informatics, and economic networks," since these historical developments require new theoretical paradigms. (Wolfe 2010, xv–xvi)

2 See, for instance, "Top Biotech Companies Race to Unlock the 'Immortality Gene.'" Retrieved from https://moneymorning.com/how-to-live-rich-and-live-forever/top-biotech-companies-race-to-unlock-the-immortality-gene; or see "5 Startups That Want to Help You Live Forever." Retrieved from www.futureofeverything.io/5-startups-want-help-live-forever.

3 See, for instance, the article published September 21, 2018, "Larry Ellison: The Maverick Billionaire Who Wants to Live Forever." Retrieved from www.msn.com/en-us/money/markets/the-maverick-billionaire-who-wants-to-live-forever/ss-AAzVNlk; "Silicon Valley is selling an ancient dream of immortality" by Thomas Metzinger, published August 18, 2017, retrieved from www.ft.com/content/7a89c998-828d-11e7-94e2-c5b903247afd; "Amazon's CEO Is on a Quest to Stop Aging," by Joe McGauely, published January 27, 2017, retrieved from www.thrillist.com/tech/nation/amazon-jeff-bezos-anti-aging-unity-biotechnology; "The Men Who Want to Live Forever" by Dara Horn, published January 25, 2018, retrieved from www.nytimes.com/2018/01/25/opinion/sunday/silicon-valley-immortality.html. "Seeking Eternal Life, Silicon Valley Is Solving for Death" by W. Harry Fortuna, retrieved from https://qz.com/1123164/seeking-eternal-life-silicon-valley-is-solving-for-death.

4 See "Clinical Therapeutics, Dietary Supplements and Aesthetic Solutions Propel the Anti-Aging Market to Hit $ 85.b Billion by 2022," retrieved from, https://medium.com/swlh/we-are-an-industry-now-the-emergence-of-ai-powered-longevity-biotechnology-industry-1508a0596d3c.

5 In a televised broadcast that was aired across the nation, Thiel proclaimed his endorsement of Republican presidential nominee, Donald Trump. He said:

"I build companies" Thiel began, "and I'm supporting people who are building new things, from social networks to rocket ships. I'm not a politician. But neither is Donald Trump. He is a builder, and it's time to rebuild America." Retrieved from http://time.com/4417679/republican-convention-peter-thiel-transcript.

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