Routledge Studies in Contemporary Philosophy

TRANSHUMANISM, NATURE, AND THE ENDS OF SCIENCE

Robert Frodeman

Transhumanism, Nature, and the Ends of Science

Humanity and nature have been defended on many sides from the onslaught of science and technology, but in this book Frodeman expertly confronts what is arguably the greatest challenge of them all, transhumanism.

—Steve Fuller, *Author of Humanity 2.0, University of Warwick, UK*

For a long time, I've had misgivings about the transhumanist project. This book has helped me understand why. This is a deep and important book. We owe it to ourselves to take seriously as we rush headlong into a hyper-technological future.

—David Livingstone Smith, *University of New England, USA*

This book offers a social, political, and aesthetic critique of transhumanism and of the accelerating growth of scientific knowledge generally. Rather than improving our lives, science and technology today increasingly leave us debilitated and infantilized. It is time to restrain the runaway ambitions of technoscientific knowledge.

The transhumanist goal of human enhancement encapsulates a range of dangerous social pathologies. Like transhumanism itself, these pathologies are rooted in, or in reaction to, the ethos of 'more'. It's a cultural love affair with excess, which is prompted by the libertarian standards of our cultural productions. But the attempt to live at the speed of an electron is destined for failure.

In response, the author offers a naturalistic account of human flourishing where we attend to the natural rhythms of life. The interdisciplinary orientation of *Transhumanism, Nature, and the Ends of Science* makes it relevant to scholars and students across a wide range of disciplines, including social and political philosophy, philosophy of technology, science and technology studies, environmental studies, and public policy.

Robert Frodeman is Professor of Philosophy at the University of North Texas. He is the author and/or editor of 16 books, including the *Oxford Handbook of Interdisciplinarity, Sustainable Knowledge: A Theory of Interdisciplinarity*, and *Socrates Tenured: The Institutions of 21st Century Philosophy* (with Adam Briggle).

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The human condition is such that pain and effort are not just symptoms which can be removed without changing life itself; they are rather the modes in which life itself, together with the necessity to which it is bound, makes itself felt. For mortals, the "easy life of the gods" would be a lifeless life.

—Hannah Arendt


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Preface

It is only when you take your ethics for granted that all problems emerge as problems of technique.

Louis Hartz

In 2002, Columbia University's Center for Science, Policy, and Outcomes held a conference titled "Living with the Genie." The goal of the meeting was described as "the development of a new social contract between the scientific community and society as a whole." Talk of a social contract between science and society was common in those days. But the governing metaphor of the conference hinted at greater anxieties.

Genie, or jinn, are intelligent spirits or demons endowed with magical powers. They are human-like in their capacity for good and evil. They're tricksters who provide surprising and often unwelcome results. The conference, then, was centrally concerned with technological determinism and the fear of nasty surprises. Can we control the genie of science and technology? Or should we admit that we are its captives, just along for the ride?

The meeting included talks by Ray Kurzweil and Bill Joy. At that time, two years after Joy's (in)famous article in *Wired*, the two men had formed a road show debating the promise versus the perils of technoscientific advance. Joy's call for "relinquishment"—abandoning whole areas of research because of the dangers they embody—was viewed as a curious, unpalatable, and in any case impossible option for society. Kurzweil was the advocate for technoscientific advance. He was seen as a little over the top—he was already talking about the Singularity—but his was the future that most people expected, and indeed were excited about.

As Kurzweil left the stage, I approached with a question.

Me: "You spoke eloquently of the scientific advances we can look forward to. But you don't seem to take seriously the dangers that these advances might contain."

Kurzweil: "Any downsides to technological advance will be trumped a 1,000 or 10,000 to one by the positive side of things."

Me: "I don't know what you mean by 'positive' here, but let's grant the point. But what if the one downside is the extinction of the human species?"

Kurzweil stared at me for a moment, turned, and walked away.

It's hard to draw a conclusion from silence. But in this case, Kurzweil's mute exit constitutes an answer: there *is* no reply to my question. Of course it's crazy to pursue technologies that could foster the creation of a high-tech police state, the loss of our autonomy to machines, or to the annihilation of the human race, whatever their possible upside. People have a habit of weighing the good with the bad, but there is no balance to be struck for some of these outcomes.

Nonetheless, Kurzweil exemplifies our social policy: not only that technological development must continue, but that it must continually speed up. Objectors to this program are cast as Luddites calling for a return to the Pleistocene. But there's another option: we can slow down. We can support progress, but also call for deceleration. We can slow the growth of knowledge and of social change to the point where we can plan for some of its effects, and have time to think about the possible consequences of our discoveries and inventions. And we can redirect some of our efforts toward becoming more compassionate toward one another.

This, however, would require that we restrain the pied pipers of Silicon Valley. That doesn't look likely: we're accustomed to marching to their tune. We carry their instruments in our hands and line up around the block for the latest version. Kurzweil's followers view religion as a crutch for the weak-minded. But they remain committed to their own belief in a future technological utopia. This comes coupled to the confidence of the 15-year-old boy: "let's give it a try . . . what could go wrong?"

Tech-inspired disaster has long been fodder for Hollywood blockbusters. But in real life the dangers of science and technology are greeted with a yawn. Few see society as being in the midst of an epistemic crisis. I don't mean fake news, which has certainly done its damage, but instead the more fundamental fact that our pursuit of knowledge has spun out of control. Knowledge becomes ever more powerful, and is produced in so many areas and places, that no one could possibly understand what it adds up to. But we still somehow trust that all the outcomes will be benign. Complaints are often lodged against neoliberalism, an ideology that summarizes its outlook by the acronym TINA (There Is No Alternative) to the invisible hand of the market. The market, it is said, balances our desires in a way that no human decision-making process can match. Few recognize, however, that we have put ourselves at the mercy of another version of TINA. We inhabit an inscrutable knowledge-scape

where the effects of our discoveries and inventions have grown beyond anyone's calculation.

For all our industriousness, there's laziness at work here. Our science and engineering are often brilliant, but that's the work of a few, an unearned bounty for the rest of us which we receive with outstretched hands. Science and technology have been so successful for so long that we've lost the ability to see that the role they play in our lives has changed. Genie-like, they have moved from faithful servants to capricious and unpredictable forces that threaten not only our values but also our very humanity. Despite the prevalence of myths like the Sorcerer's Apprentice and Frankenstein—or more recently, the unsettling visions of *Dark City* (1998) and *The Matrix* (1999)—our politics and policy debates surrounding technological advance haven't caught up with reality. It's not only the apocalypse that's to be feared; it's also the tracking of our every movement, desire, and purchase, providing the insidious means for manipulation and control.

Transhumanism provides the organizing principle for the reflections that follow. But my central concern lies with the larger issues that transhumanism illuminates: the dominating role of science and technology in our lives. In response, I offer a defense of what transhumanism tries to ignore—a life attuned to natural rhythms. By acknowledging the sway of natural things, both within and beyond us, we find an alternative to the Promethean urges that impede our flourishing and threaten our survival.

Transhumanism, Nature, and the Ends of Science sees transhumanism as both the apogee and reductio ad absurdum of modernity. These pages sketch a new direction for society where progress is both redefined and decelerated. Our habit of treating science and technology as our get out of jail free card has obscured the fact that uncontrolled desire lies at the root of personal unhappiness, as well as social struggle and disappointment. Science and technology have given us a set of work-arounds to facing up to ourselves; transhumanism is now offered as the ultimate work-around. This approach has worked for quite some time; I doubt that it will for much longer.

To state the argument of this book as baldly as possible: science and technology have been an incredible boon to the human condition. Humans had so little (in terms of material comforts, medical care, etc.) for so long that our consciousness is attuned to want more. In recent centuries science and technology have provided the "more," and we are all its grateful beneficiaries.

Now, however, the desire for more has become destructive and even nihilistic. This is for two reasons. First, we are coming up against limits that our considerable technological capabilities strain to overcome. This applies to both the physical world, in terms of natural resources (e.g., population) and pollution (e.g., CO_2), and to those "soft" limitations that constitute us as human. This is often less a matter of technological

incapacity than with our being left with a double bind, where addressing one problem gives rise to another. Second, it is increasingly the case that the "more" that science and technology offer us is trivial and/or dangerous in nature. Trivial, as it provides us with mindless amusements and pointless innovations; dangerous, because it could lead to our enslavement if not our destruction.

Which raises the question of the ends of science. The phrase is ambiguous. In the first instance it asks, what is the *goal* of science? Traditionally, the answer combined the desire to know reality with the aim of "the relief of man's estate" (Bacon). But how much relief is enough? This is currently a question only for the (over) developed parts of the globe, but it is a question nonetheless. Is it possible that at some point science and technology will have done their work? For if there is no end to science in the sense of a goal and terminus, then we have embraced the transhumanist project. Which prompts a second question: might our reaching for infinity have the Icarus-like result of ending both science and ourselves?

These themes have preoccupied me for some time, but the bulk of this book was completed between December 2017 and August 2018, in a small home above the Hoback River, near its confluence with the Snake, in western Wyoming. The location was more than incidental: it offered a daily reminder of the steadying pace of life in a more natural environment. My place lies south of the town of Jackson, itself an odd, beautiful, and deeply damaged place that is a microcosm of our global situation. By way of grounding these reflections, Hoback, Jackson, and the Greater Yellowstone Ecosystem will make occasional appearances as an intermittent case study for the themes developed here.

Finally, I note that there is an element of Frodo versus Sauron to this endeavor. The ring of technology seduces all of us, and I too struggle to let go of its attractions. Moreover, the amount of financial resources and sheer intellectual firepower on the side of the transhumanists, and of science and technology in general, is daunting. Nearly the entire apparatus of 21st-century society supports this view of the future. In comparison, those who are dubious about life taking its bearings from science and technology form a ragtag group of the marginalized and underfunded: environmentalists, technophobes, the Amish, and a few others. It's not an equal fight.

But I'm not without hope. A number of commentators, beginning with the Iranian-American author Fereidoun Esfandiary, aka FM-2030, have predicted a shift in our politics from the current dysfunctional left-right axis to a new political ontology. This point, however, is usually framed in ways that favor the transhumanists. Esfandiary described it as a 90-degree turn from left-right to up- and down-wing. The up-wingers are the transhumanists, and those fellow travelers who define the future in terms of technological progress. This leaves the other side as a downer. Other contrasts have been offered—"open versus closed" (in terms of borders and

culture; "build that wall"), and "passive versus active" (in terms of our acquiescence to or willingness to control technological change). My own contribution to the debate will be framed in terms of pacing—not only the fast versus the slow, but also the idea that there are natural rhythms to the well-lived life.

It's time to end our attempt to live our lives at the speed of electrons. My hope that this work becomes part of a burgeoning movement populated by those who believe that the way forward lies in the direction of *Bildung*, Buddhism, and maturity rather than in runaway technology.

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The Bones of the Argument

A book cannot say everything at once, and we're swamped with reading. Here are the main elements of my argument.[1]

The Issue

1. Transhumanists believe that humanity can reach a new existential state—smarter, stronger, longer-living, perhaps to the point of god-like powers—by means of science and technology. This may take the form of enhancements to our bodies, both physical and cognitive, the cyborg melding of human and machine, or by creating and then being absorbed by artificial intelligence. These results are viewed positively as the advent of Humanity 2.0.
2. Transhumanism is often portrayed as of interest to only a few oddball futurists. But rather than an aberrant aspect of science and technology, the entire architecture of modern culture is implicitly transhumanist in orientation. Transhumanism represents the logical endpoint or telos of the Enlightenment project of sapere aude—dare to know.
3. The question, then, concerns the status of the Enlightenment project in the early 21st century. Which parts of modernity should still be embraced? Which jettisoned? Will the further pursuit of technoscientific knowledge promote the improvement of the human condition or lead to our trivialization, enslavement, or destruction?

The Critique

1. *Transhumanism, Nature, and the Ends of Science* is an essay on our post-modern condition. It draws upon resources from ancient philosophy for a critique of modernity. But rather than an exercise in nostalgia, it seeks to move culture forward rather than back. It imagines an alternative to a culture thoroughly dominated by science and technology, one which strives for maturity and attends to the natural rhythms of nature.
2. The critique of transhumanism offered here proceeds along two trajectories: the social-political and the metaphysical-aesthetic. Underlying

both is a simple intuition: our reliance on science and technology encourages an unserious culture of distraction and amusement. We face critical challenges today. Addressing them will require a dual approach: further advances in science and technology need to be matched with efforts to reform our character and temper our desires.

3. The social and political risks of transhumanism include *political instability*, caused by the development of a subset of humans with significantly greater powers; *totalitarian government*, where transhumanist advances become the means for manipulating and controlling the general population; and *social and/or environmental disruption*, where the transhumanist project leads to catastrophic accident or falls into the hands of bad actors.
4. In terms of metaphysics and aesthetics, transhumanism suffers from a defective philosophical anthropology. It misunderstands our embodied nature and wrongly identifies our humanity with our computational power and our desire for pleasure. It defines progress in terms of greater technoscientific development rather than by the cultivation of greater compassion and solidarity. It has an impoverished notion of human fulfillment. Transhumanism offers technical innovation and ever more elaborate toys instead of what is needed: an alternative to a culture increasingly devoted to adolescent entertainment.
5. Rather than fulfilling our millennialist dreams, the more likely result of transhumanist efforts consists in the realization of the fears of Orwell or Huxley—or both. There are abundant signs of both dangers: on the one side, the development of a surveillance society, where our every movement and purchase are tracked; and on the other, the rise of a drugged culture dominated by disinformation, disengagement, and distraction.
6. Transhumanism highlights the dangers implicit within contemporary culture, where every challenge is treated as the occasion for more science and technology. Scientific and technological innovation breaks down established practices in every aspect of our lives, prompting the destruction of norms in politics, economics, and culture. The resulting problems raise the question of whether it's time to restrain the production of knowledge.

Background Assumptions

1. The sine qua non of the transhumanist project is the belief that our actions have no natural boundaries: as Nietzsche put it, God is dead. A critique of transhumanism should include an appeal to prudence; but it must also offer a compelling and attractive vision of a life lived within limits. The account here does so via a philosophy of nature based in the rhythms and cadences of life, rooted in our geologic history.

2. This work provides a defense of the natural. The idea of the natural implies the embrace of limit. A philosophy of nature challenges the current cultural imperative of infinite innovation, and implies limiting knowledge production to make more room for non-epistemic experiences.
3. This argument is bears some resemblance to, but is in crucial elements distinct from the claims of the bioconservatives, authors such as Leon Kass, Michael Sandel, Francis Fukuyama, and Bill McKibben. For instance, my claims about limit are based in the paleontological account of human life rather than a yuck factor or a mysterious "Factor X" that lays claim to human dignity.
4. In terms of its politics, the argument here is platonic, in that it emphasizes the central value of the power of art for the shaping of human culture, and that it is necessary for art to be restrained and directed. If transhumanism today defends the idea of liberal eugenics, the argument offered here calls for a liberal notion of limit, rooted in tone rather than content. Cultural productions are commonly the source of a Zeitgeist; changing a Zeitgeist depends more on mood than argument, and more on art than philosophy.
5. Given the tremendous momentum behind the growth of scientific and technological knowledge, it will be a difficult if not impossible task to persuade either the public or elites of the argument made here. But if it is possible, it's most likely to occur by changing our cultural imaginary, which is the driver of our transhumanist impulses. Change may also occur through a medium-sized catastrophe, causing a fundamental reorientation—a metanoia—of our cultural assumptions.
6. This is not a call to end technoscientific progress. Nor is it a call for authoritarianism. Concerning the former, much of the world lacks electricity, food, and adequate medical care, and there are diseases that remain to be conquered. We are unlikely to solve these problems, or mitigate climate catastrophe, without major breakthroughs in technology. The idea of limit offered here is directed at the developed world, which suffers from the disease of "too much." Concerning the latter, one does not have to be the friend of authoritarians to note that it is possible to have too much as well as too little democracy and freedom.
7. Technology has become the functional equivalent of a drug; just as there are procedures for vetting new drugs, there should be vetting procedures for technological innovation. Our portfolio today needs to include relinquishment as well as innovation. I seek to promote the exercise of judgment, capping innovation that has become frivolous or destructive.
8. It is time to recast our educational ideals: less reliance on science and technology and more focus on cultivating compassion, solidarity, and maturity. Society is excessively reliant on the STEM (science, technology, engineering, and mathematics) disciplines and upon

knowledge production generally; calls for "innovation" have become dogma. The arts and humanities, so often marginalized or dismissed, should be the vehicle for such a recasting. Unfortunately, these fields suffer from their own pathologies, and so the reorientation of our culture will depend on new versions of the arts and humanities.

The Frame of the Argument

1. This is neither a "conservative" nor a "liberal" argument. Instead, it rejoins the *querelle des Anciens et des Modernes*. The quarrel must be amended for a postmodern era. The assumptions of modernity are still very much with us—thus transhumanism—but they are a poor match for a world with 7.7 billion people. Moving off-planet is chimerical; it's time to recognize that the age of infinity is passing from the scene. Our task is to retrieve those elements of the ancient worldview and meld them with modernity in order to stake out a sustainable future.
2. Pell-mell technoscientific advance has prompted a new, dangerous politics. The rise of Trump, Le Pen, Duterte, Bolsonaro, etc., has been made possible by the twin forces of globalization and internet culture, themselves spawned by continual and accelerating innovations in science and technology. Globalization leaves increasing numbers of people in history's backwash, susceptible to the politics of resentment; internet culture has taken the guardrails off of information dissemination, threatening the very notion of a common truth.
3. The view offered here combines an emphasis on *Bildung* and maturity with Buddhist concerns with moderating human desire. It redefines our notion of human progress for an age of scarcity. It decisively breaks from transhumanism at two critical points—the latter's sole reliance on science and technology in its definition of progress, and its mania for acceleration. The animating flaw of transhumanism, and of technoscience generally, lies in its anti-Aristotelian fervor. It has led to the corruption of societal deliberation by technoscientific advance.

What follows is an untimely meditation, running against the tide of events. It is written for a possible shift in the Overton Window, an alternative future where its arguments might find purchase.

Note

1. *Transhumanism, Nature, and the Ends of Science* develops themes found in *Sustainable Knowledge* (2014). *Sustainable Knowledge* argued that interdisciplinarity implied the need to recognize limits to knowledge production; in what follows, I explore the consequences of infinite knowledge production.

1 The Tool of Our Tools

"He treats the world as a game." IRL ("In Real Life") Streamers broadcast their daily lives—all parts, good and bad, exceptional and mundane. Some have hundreds of thousands of followers. A New Yorker profile[1] describes one prominent streamer. Armed with a smartphone and a selfie stick, he walks into a restaurant chosen at random. Soon his viewers are "swatting," calling the restaurant with reports claiming that he's a child molester or a terrorist with a bomb in his backpack. The nervous manager asks him to leave. Viewers then flood the restaurant's Yelp reviews with low ratings. Streamer and audience move on to their next amusement.

1

Times certainly have changed. Behavior that once would have resulted in shunning or arrest has now become common. Of course, some of these changes are salutary; some not. The point, however, is the ways in which science and technology make these decisions for us. How have we arrived at this point? These pages trace this story.

This requires a dive into philosophy. Our social conditions today are in many ways unique, and the power of our technologies is unprecedented. It's a brave new world out there. Nonetheless, our circumstances have been mapped by dead philosophers. Hegel, for instance: he understood that there is a rhythm to events, that innovations cause rebound effects, and advances provoke their opposite. We are empowered by our technologies, but they also leave us debilitated. We are both aroused and overwhelmed by our inventions; our devices both augment and abolish our freedom.

Thoughtful people have identified an array of challenges facing society: food security, climate change, pandemics, overpopulation, weapons of mass destruction, collapse of the global financial market. They have labored tirelessly to devise solutions—improved crops, more efficient sources of power, better birth control and the empowerment of women, enhanced scanning of incoming cargo, better monitoring of stock activity. Make no mistake: these efforts have accomplished a great deal of

good. But the solutions being offered are overwhelmingly technological in nature. Our passions are thought of as unmanageable; progress is defined by improving our tools rather than ourselves. This raises the danger noted by Thoreau: we may become the tool of our tools.

Transhumanists[2] are the most toolish of all. They have grand aspirations for our future. They want to turn our scientific and technological powers back upon ourselves. But in their eagerness they skip over the negative aspects of their program. The reasons vary. Some transhumanists are insulated by talent, money, and status: even if others suffer, they will retain their survivalist mansions and New Zealand passports. For others, the desire is more millennialist: no sacrifice is too great to reach the promised land of the Singularity. And often it's just too difficult to pay attention to possible dangers when life is so filled with wonderful opportunities.

Transhumanists, and the techno-optimists generally, have missed a crucial point. They haven't realized that Zuckerberg's motto "move fast and break things" is a pleonasm.

2

Whether or not they are transhumanists, our most prominent scientists and engineers regularly promise a new dispensation for humanity—longer life and heightened skills and pleasures. But listen again, and you can hear rumblings of unease. They emphasize the coming marvels, but when pressed they'll also grant that technological advance might just snuff out the human race. Elon Musk and Steven Hawking warn of the dangers of artificial intelligence (AI), even while pushing things forward; James Barrat ponders whether AI will be our final invention. Others are troubled by advances in nanotechnology and genetic enhancement, or worry about do-it-yourself (DIY) microbiologists creating monsters in basement labs.

We will return to the IRL trolls and the DIY biohackers who inject themselves with their own genetic concoctions. For now, let's focus on the mainstream voices, people like Gates and Hawking. Their views repeat the concerns once expressed by Bill Joy—but without drawing Joy's conclusion. Thus Hawking: "we cannot know if we will be infinitely helped by AI, or ignored by it and side-lined, or conceivably destroyed by it" (Osborne 2017). But the fact that "we cannot know" did not lead him to suggest that we should pause in our research. Joy is distinctive in that he followed his thinking to its logical conclusion. Sizing up the risks, he argued that we should "limit development of the technologies that are too dangerous, by limiting our pursuit of certain kinds of knowledge" (Joy 2000).

Joy is well-known in tech circles, and his essay was widely read, but few inside or outside of science have taken his suggestion seriously. In the years since he published his essay the growth of knowledge has

accelerated, and the dangers of technological advance have increased. But this hasn't prompted discussions about slowing the growth of knowledge.

True, one can find a few vague pronouncements. The Future of Life Institute held the Asilomar Conference on Beneficial AI in 2017. They promulgated a set of 23 principles. The results, however, were pretty weak beer: "AI Arms Race: An arms race in lethal autonomous weapons should be avoided." Well, yes! One finds little that is programmatic and policy-focused—no senator or Washington think tank is arguing that we should freeze AI funding while we assess the risks, or declaring that DIY biology should be illegal. No international conference whose theme is whether it is time to call a halt to the Enlightenment, that sapere aude! has become too dangerous to pursue. These suggestions lie outside the Overton Window. On the contrary, everyone expects things to accelerate.

Not all the possibilities are dire. But even the non-lethal ones can be quite disorienting. Human brain tissue is now grown in dishes from stem cells—"brain organoids." Some wonder whether these organoids might come to have—or perhaps even already have—conscious experience. Other experiments involve the manufacturing of chimeras, the transplantation of human cells derived from pluripotent stem cells into the brains of mice. This research could lead to life-altering advances for those who suffer from neurological or psychiatric diseases. But it also threatens cultural norms and religious beliefs, and unsettles our sense of what it means to be human. Are we ready for the Patriots' next running back to have some percentage of gorilla DNA? Transhumanists speak with the wide-eyed fervor of old-time preachers, but their aspirations challenge cultural norms in unprecedented ways.

On rare occasions someone questions the endless production of knowledge. But usually the concern isn't with technoscientific knowledge at all but with the social sciences and the humanities. These fields are described as useless—meaning that they do not produce stuff. Or they're described as being positively obstructionist, meaning that they raise questions about the production of more stuff. But these fields are not as radical as all that. These fields also embrace infinity—the ideology of infinite knowledge production, the norm of producing books and articles for a tiny cohort of like-minded specialists. It hasn't occurred to humanists that their task is fundamentally different from that of the sciences, that they ask questions rather than provide answers, and that the bulk of their work should be tied to awakening an appreciation of perennial issues rather than engaging in the discovery of new specialized truths.

Set the humanities to one side: the progress that people have in mind is technoscientific in nature. Try suggesting that we take a break from this, that a pause in development might give us a chance to catch our collective breath: you will be told that technological development is unstoppable. Even a temporary pause is impossible. The point isn't really argued; it's axiomatic. You can't stop progress. This despite the fact that we have

been able to stop technoscientific development when motivated to—thus the Outer Space Treaty, which banned weapons from space. (That was in 1967; in 2018, the Trump administration proposed the creation of a new military branch dedicated to fighting wars in space.) Nor, it seems, can we discuss the possible redefinition of progress. Everything is possible in terms of technology, while nothing is possible in terms of moderating our sensibilities and desires. The world is a bounty of resources open to manipulation, and the transhumanists now tell us, so are our bodies and minds. Improving our character isn't one of our options.

Hitchcock describes similar limits to conversation in *Foreign Correspondent* (1940). The movie is set in 1939; the International Peace Party is having a meeting to discuss the looming threat of World War II. Someone explains that the coming war involves circumstances over which we have no control. A member of the Peace Party replies:

> Yes, those convenient circumstances over which we have no control. It's always odd, but they usually bring on a war. You never hear of circumstances over which we've no control rushing us into peace, do you?

The determinist argument shuttles between the two poles of "can't" and "shouldn't." Under "can't," the pursuit of knowledge is treated as if it is written into our DNA, and the budget of the National Science Foundation constitutes a fourth law of motion. The point is also made in terms of political realities. Passing laws to restrain knowledge production is hopeless. Laws could forbid some types of research, but there will always be researchers and countries who will go rogue. (By this logic, we should also give up on outlawing murder.) At some point, the argument shifts to "shouldn't." We have so many problems to solve; it's not right to stop the pursuit of knowledge. Caught between can't and shouldn't, we accept our fate and wait expectantly for the wonders (or disasters) in the offing. In any case, there's no sense dwelling on negative possibilities if there's nothing to be done about them anyway.

This view is more than a pose but less than a thought-out conclusion; less a counsel of despair than an unexamined intuition and failure of will. It's time that we acknowledge that we possess agency here, too. Difficult, yes. Impossible, no. Long-held assumptions need to be challenged—not only of the goodness of more and more knowledge, and inevitability of ever more technology, but other beliefs as well: that knowledge is the sole way to address a problem, that self-rule and continued technological advance are compatible, and that technological convenience is an unambiguous good. This is to problematize issues that have been left for dead. But it is possible to turn our attention toward how to persuade people to be more humane and compassionate rather than simply stronger and smarter and loaded down with toys.

3

Foucault once imagined writing the history of thought in terms of how tacit assumptions become visible:

> for a domain of action, a behavior, to enter the field of thought, it is necessary for a certain number of factors to have made it uncertain, to have made it lose its familiarity, or to have provoked a certain number of difficulties around it.
>
> (Rabinow 1998, p. 388)

How is it that the largely laissez-faire production of knowledge is not viewed as a problem, at least potentially? That so few people raise questions about the continued acceleration of knowledge production, particularly in terms of technical know-how? That we hear warnings concerning the dangers of artificial intelligence, but this is not matched with calls to halt research in AI?

"Problematization," or a shift in the Overton Window, can occur in a number of ways. It can happen through economic disruption, or via the persuasive power of a charismatic individual who prompts the rise of a social movement. (A minor example, perhaps, but at this writing, a 29-year-old freshman congresswoman from New York, Alexandria Ocasio-Cortez, seems to have single-handedly shifted political discourse in the United States.) It can be imposed from above, through the actions of an authoritarian government, or strike like a bolt from the blue via an artist's vision. Or it can come about through a major political, economic, or environmental disaster. But by whatever process, problematization requires a fundamental shift—a metanoia, a life-changing alteration in perspective—in our intuitions concerning the parameters of our lives.

Such transformations can be quite traumatic, a point that we will explore below. But bad as they can be, it is still worse not to recognize a catastrophe when it has occurred. For the dangers of science and technology do not only lie at some point in the future. Images of frogs and boiling water notwithstanding, it's possible that the apocalypse has already transpired, and lulled by the trains running on time and the lack of a Death Star, we've missed the signs. The United States has already elected a reality TV host president, in part through the machinations of artificial intelligence. Entities like Google and Facebook possess data about us that we do not have about ourselves, and maleficent actors use these sites to manipulate our moods and our political beliefs for political and financial gain.

These possibilities worry many, but our behavior remains the same. The problem is that our behavior isn't particularly amenable to argument. Rather, our beliefs and actions are rooted in dim presentiments—feeling tones, really—that are the sources of more propositional claims.

These feeling tones are not simply given; they are constructed and directed. They are not steered by argument, but by the images and metaphors of our cultural productions—the revenge of the "useless" arts and humanities.

Much of the following account is devoted to mapping the evolution of these feeling tones. Take one example: perhaps the Ur-image of American culture since the 1970s has been the figure of Dirty Harry,[3] the angry, autonomous, and well-armed individual at war with the state. (The political correlate is Ronald Reagan.) This cultural icon redefined our understanding of freedom: limitation has now come to be viewed as an affront. We've created a society

> Where there is nothing much to believe in, and nothing much to fight for, except the never-ending expansion of personal freedom.
>
> (Hamid 2018)

But this is tacit nihilism, freedom reduced to an instrument for arbitrary ends. Ironically, this also serves the interests of authoritarians, who find that isolated and (despite the firepower) defenseless individuals are easier to manipulate than communities who share a commitment to a common set of values.

This also implies that it's less likely that opposition will form against today's rising sources of power. I do not mean nation-states, which are in long-term decline, but rather the welter of private corporations that are global in reach and armed with the latest technological advances. The power wielded by FAGAM (Facebook, Amazon, Google, Apple, and Microsoft) exceeds that of many governments, reflected in their ability to resist and ignore state control. These are stateless corporations rather than American enterprises: 80% of Facebook revenues now come from outside the United States, and 94% of Apple's cash reserves ($250 billion) lie in offshore accounts, an amount "greater than the combined foreign reserves of the British government and the Bank of England" (Dasgupta 2018). It's a classic case of misdirection: people are trained to rail against government, while our lives are increasingly governed by corporate monopolies.

But now to my point: behind all this lies science and technology. Not only does technology make such gargantuan companies possible, but it also enables the appropriation of our privacy that poses dangers both public and private. Our phones constantly specify our location, as do our purchases, and we casually give up information concerning our habits in exchange for tiny discounts. Altogether, it is a curious exercise in freedom: technology increases our capacities even as it ensnares us in webs of control.

It wasn't so long ago that "freedom" had other connotations. Even in living memory, in the 1940s, freedom not only meant increased capacities

but also included the idea of self-rule. Rather than the isolated individual confronting massive public and private entities, we participated in small and medium-sized organizations—running and frequenting local businesses, joining social organizations and bowling leagues. In such circumstances it is obvious that we must restrain our prerogatives in order to share a life with others.

If this commonplace is rarely noted today, perhaps it has something to do with the prejudices of academics, who supply much of our public commentary. It's within the academy that we see the full flowering of today's libertarian ethic. This is especially true in the humanities: a philosophy department consists of an aggregate of individuals with little sense of solidarity with their department, college, or university. It's notorious that academics feel greater connection and allegiance to colleagues in their subspecialty across the nation and world than with academics down the hall. What's less remarked upon is the fact that tenure has now become a sinecure, a personal reward for research productivity, rather than a privilege granted in order to speak truth to power.

Technology was supposed to advance our freedom. But rather than increasing our freedom and happiness, our technological advances increasingly leave us isolated and dispossessed. We are drugged by our technologies, and our autonomy is overwhelmed by corporate command. Fighting city hall is hard; reasoning with AT&T is nearly impossible. We've traded community for technology to increase our autonomy, but this has turned out to be a poor bargain. In reaction, we have become sullen when social demands are made upon us, and increasingly susceptible to the blandishments of authoritarians who promise to restore our freedom even as they take it away. And this spiral of impotency makes cultural productions of ever-more-weaponized Dirty Harrys all the more attractive.

Transhumanism rests at the top of this dynamic. It makes explicit our tacit assumption that infinite technology will provide us with infinite freedom and infinite happiness.

4

This argument explores what I will call the Kaczynski thesis: scientists and engineers are responsible for a wide range of societal disruption, but they've been given a free pass on the consequences of their creations.[4] Now, Ted Kaczynski killed three people. But one can abhor his actions while agreeing with his analysis concerning the Wizard of Oz quality of technoscience.

It's common to hear capitalism described as the motor of societal change. And it's true that technoscientific invention and capitalism move hand in hand. After all, Marx and Engels were talking about technology when they spoke of the bourgeoisie "constantly revolutionising the

instruments of production . . . All that is solid melts into air, all that is holy is profaned." It's a question of relative balance. In the 19th century it made sense that Marx was an economic determinist, and to view technology as handmaiden to capitalism. At that point, both science and technology were at a relatively rudimentary stage of development. But across the 20th and into the 21st century the balance has shifted: science and technology now open up entire new sources of cultural change. We are living through a new Gilded Age—Jeff Bezos' wealth *increased* by $40 billion in the first half of 2018—made possible by technoscientific development.

Kaczynski detected this blind spot—his sister-in-law once told me that he was reading Heidegger on technology in the 1970s—but it still slips past people's attention. One mark of this is the fact that we put no governor on the technological lottery. Baseball players were once amply compensated for their skills and the entertainment they provided. Then, through a quirk of technology—games being broadcast on cable TV—players went from making a nice living to making millions (and the owners, of course, much more). The league *minimum* for a rookie in 2019 was $550,000. But rather than moderate this result through the enactment of a windfall profit tax on individuals or occupations that have won the technological lottery, we accept the resulting inequities as part of the natural course of things.

This book is neither anti-technology nor anti-progress (nor anti-baseball). But it does seek to rebalance the scales between our tools and our character, and to redefine what counts as progress. It does so through a series of steps: an account of transhumanism, an exploration of the motivations behind transhumanism and science and technology generally, and a reflection on the cultural productions that have helped shape these motivations. It provides a political and metaphysical critique of transhumanism. Then, as part of the effort at rebalancing, it offers an account of our place in the world that takes nature (and the idea of the natural) seriously.

Transhumanism names the project to turn ourselves into superhumans via the interventions of science and technology. It promotes a diverse assemblage of advances, including robotics, artificial intelligence, and genetic manipulation, harnessed toward the goal of extending our life spans and enhancing our physical and cognitive abilities. It defines progress as something outside of ourselves, even when it is concerned with our minds and bodies. As such, it ignores the possibility that the real challenge before us consists of "enhancing" our soul.[5]

This will be a tough sell, for the care of the soul has been largely abandoned, at least as a social project. It's a point of view that has become alien to our culture. Try suggesting to a class of undergraduates that *Bildung*, the cultivation of their sensibilities and the development of a mature outlook on life, forms an important part of their education. You

will get uncomprehending looks and indignant replies. A similar reaction governs the prospect of technologically enhancing the human stock: if you don't like the idea, well, no one is forcing you to enhance yourself. People variously view the idea of morphological freedom as wonderful, weird, or repugnant. But few see it as *improper*. Instead, objections to transhumanism, or to body modification in general, are greeted with a libertarian shrug of the shoulder. If Erik Sprague wants to turn himself into Lizardman, with sharpened teeth, a full-body tattoo of green scales, a bifurcated tongue, and subdermal implants—well, I hope he doesn't date my daughter, but otherwise it's his business.

Others believe more is at stake. There are the social, political, and ecological consequences, good and bad: science giving us genetically engineered bugs who will eat pollution, as well as the possibility of the grey goo of nanobots ending all life on the planet. There are also questions of metaphysics and meaning, issues that are now broached in a cryptic fashion. We lack—we have lost—the vocabulary for these discussions. Metaphysics has no standing, as its basic theme (what is the nature of reality?) was long ago turned over to science. Questions of meaning have been privatized, except for the segment of the population (in the United States some 25%, and a majority among Republicans) whose basic orientation is rooted in the Christian religion. But whether the question is framed in terms of politics or metaphysics, it is hard to get anyone to move beyond the libertarian shrug that people should be able to do as they please. The effects of Darwin are still very much with us.

5

Nietzsche's parable of the Madman, which proclaimed the death of God, is the best known passage in his writings. It was published in 1882, some 20 years after and in implicit response to Darwin's *On the Origin of Species*.[6] Nietzsche was attuned to the societal and philosophical implications of *Origin*, which set the terms for much of 19th- and 20th-century cultural life: the preeminence of science, the retreat of religion into fundamentalism and metaphysics into physics, and the growth of libertarian attitudes on moral and political issues.

Origin elevated the place of science in culture at the same time that it destroyed the possibility of natural theology. After Darwin, belief in a larger purpose to our lives became unreasonable: all of life, including human life, was now viewed as the result of random processes. Our existence possessed no meaning or purpose other than what we chose to invent for ourselves. This implied that anything was possible: there were no longer any moral limits to what we could do. Some celebrated this state of affairs. Others were deeply troubled by values becoming arbitrary, what has come down to us as the problem of nihilism.

For some, in those days as well as in our own, there *is* no problem. As a matter of sociological fact, it's possible for people to find purpose in their lives in the daily act of living, in raising a family, performing one's job with skill and integrity, and participating in social events. For these people, life does not need a larger justification. For others, however, ethics must be grounded in metaphysics. This becomes most clear in moments of crisis, when people are struggling to make sense of their suffering.

In the *Nicomachean Ethics*, Aristotle grounds his thinking in a metaphysical rather than religious assumption, in a philosophy of nature rather than God. He posits that every natural thing has a purpose, and claims that right action consists of those things that are in keeping with that purpose. For humans, our specific nature is that we are an animal who possesses *logos*. Ethical behavior consists of those actions that are consistent with our nature as rational beings. *Logos*, the ability to reason, also makes politics possible, for politics is about persuading people rather than living by brute force.

By the end of the 19th century the idea that the natural order was also a normative order was in full retreat among educated classes. This set the stage for a fundamentalist reaction: the religious tracts known as *The Fundamentals* date from the 1910s. (The logic is impeccable: if reason leads to nihilism, then let us embrace unreason.) The crucial social function of the belief in a god—the instituting of a moral order, the pre- and proscribing of thoughts and behavior, and the establishment of a horizon of meaning—were lost. This set the stage for the transhumanists. Assuming this moral boundlessness, they have sought to instantiate a practical program for the deification of humanity.

Embodying his point about philosophers living posthumous lives, Nietzsche anticipated these developments. But rather than only celebrating our newfound freedom, as many did in the 19th century and many still do today, Nietzsche raised doubts about whether we would be able to manage such freedom. The Madman poses the uncomfortable question of whether we are capable of enduring the radical freedom that we've now been given.

The transhumanists' audacious reply is: certainly! Let us set out a practical program to become gods, and pursue it at all costs. Steve Fuller, perhaps the philosophically most nuanced of the transhumanists, has made this point into a principle, what he calls the proactionary principle: any present or future pain and suffering that results from technological advance is justified by the end result (Fuller and Lipinska 2014). Fuller, however, neglects to discuss the likelihood of reaching this end state, versus our ending in catastrophe. Or perhaps he believes that extinction is another loss that can be recouped?

Nietzsche's concerns were as much political as metaphysical in orientation. He posed a question about democracy: is the radical freedom and unlimited opportunities promised by transhumanism compatible with

social equality? Or might the lack of clear moral limits lead some to run amok? One looks in vain for worked-out plans on how to respond to such dangers. In fact, there is little evidence that the issue has troubled the thinking of transhumanists. Instead, there is a tacit class structure at work: they will be the first to get the enhancements, and after that things will somehow work themselves out.

This highlights what is perhaps the most peculiar aspect of the social, political, and metaphysical revolution sought by transhumanists—that their proposals excite so little critical attention and dismay on any side of our cultural divides. (Fukuyama has called transhumanism "the world's most dangerous idea," but he has gotten little of the traction with this point that he did with his account of the end of history.) The McKinsey Global Institute Report *Jobs Lost, Jobs Gained* sees automation as threatening half of all current jobs by 2030. In the face of such predictions, we still remain sanguine about the political, economic, and cultural effects of hyper-technology—with the exception of a few vague calls for a universal basic income. One finds nothing analogous to the Luddite movement of early 19th-century England, where wooden shoes were jammed into machines to cause them to break. The social protests we do see in the United States (Occupy Wall Street and the Tea Party movement) exemplify Kaczynski's point of our overlooking the role of technology. Doubtless, capitalists and other elites are guilty of acting badly, but protestors are missing the deeper causes of the conditions being protested.

In the end, the political and the metaphysical critiques of transhumanism, and of technoscientific culture generally, become one. Evidence of nihilism and social anomie is widespread. The Las Vegas shooting of October 2017 left 58 people dead and 851 (!) injured. According to the Gun Violence Archive, the Las Vegas attack forms part of a series of mass shootings (defined as four or more people shot per incident, not including the shooter) which in recent years have averaged 9 in every 10 days. Now, gun culture may seem at a far remove from transhumanism. But the two express a common faith in technology, and also highlight the ability of tropes (cf. Rambo) to overwhelm rational deliberation about what our priorities should be. The symbolic embrace of empowerment via handguns trumps the reality that owning a gun increases one's chance of dying by violence. Similarly, in a case more obviously related to transhumanism, Christians continue to picket abortion clinics, but they have yet to trouble engineering or biology departments. This is despite the fact that these researchers are developing tools that will allow us to refashion humanity, remaking man not in God's image but in the image of our own desires.

The questions raised by Nietzsche's Madman remain uncongenial. We resist the implication that additional knowledge might lead to undesirable consequences, or that knowledge might also fall under the doctrine of the mean. We've become accustomed to turning to technical improvements

in order to avoid tempering our desires. We've avoided discussion of the possibility that democracy unravels as technology advances. And we've ignored the wide differences in ability to respond to the imperatives of technology—between the technoscientific elite, a second group of early adopters (often the young) who are adept at technology, and the great mass of people who struggle to integrate new technology into their lives, and for whom technology is often quite disruptive. Pretending that these differences do not exist has not made them go away. It is unlikely that Mark Zuckerberg understood the possibilities for weaponizing Facebook. But what is clear is that large numbers of Facebook users were ill-equipped to assess the massive amounts of false stories surrounding the 2016 US presidential election.

6

Ecomodernists take seriously the fact that we are confronted by a number of environmental problems, most obviously climate change. They then argue that the solutions to our predicaments are technological in nature, and that it is time to abandon our romanticism concerning nature. I acknowledge that various kinds of technological advance will be necessary as we move toward a more sustainable way of life. But I part ways with their dismissal of appeals to nature. Technological advance needs to happen in concert with changes in our expectations and behavior, which I will ground in an appeal to nature. It's time that we give up our fruitless attempt to live our lives at the speed of technology, which shows no natural limit, and attend to the natural rhythms of life.

I pursue this point both through argument and by offering an occasional narrative of my life in Hoback and Jackson Hole, Wyoming. (In 19th-century parlance, a "hole" was a valley; Jackson is the town, and Jackson Hole consists of the surrounding valley.) Technology and nature are the abscissa and ordinate of life in Jackson Hole. People come here for the possibility of a life lived closer to nature, but they come armed with the latest technology and expecting the comforts that they have left behind. It may seem like an out of the way place, a small town 160 miles from the nearest interstate, and a refuge from hypermodernity, but Jackson faces many of the same challenges found in London and Delhi. It's a good place to think about the challenges of technoscientific culture and what it means to try to grant nature its due.

Yesterday, when the day's work was done, I skied up Game Creek. It was snowing and the trail was empty. The snow was deep, and I was breaking trail. I came across four deer breasting the snow, and saw a lone elk up the slope pawing under a tree. Rounding a corner, I was surprised by a small dog coming down the trail. As it came closer, I was surprised a second time: it was a red fox rather than a dog. I stopped, and he came on; perhaps he did not see me. Finally, he paused some 50 feet away.

After a few moments, I decided that his business took precedence over mine, and turned around. After 100 yards I turned to look, and he was trotting down the trail keeping pace with me. He stopped when I did, and when I set off again so he did as well. We repeated this a few times. Perhaps he saw me as a source of food, or he may have enjoyed chasing me from the trail. One way or another, we were communicating with one another. Then a lone runner came up the trail and he bolted.

Notes

1. Adrian Chen, "No More Secrets," *New Yorker*, 9 July 2018.
2. A variety of terms are in play today, including humanism, transhumanism, posthumanism, and antihumanism. In what follows, I take humanism as designating the Renaissance and Enlightenment goals of human empowerment, summarized by Kant's desire for "man's release from his self-incurred immaturity"; antihumanism as marking the Nietzschean, Heideggerian, and Foucauldian rejections of the autonomous subject; and transhumanism as the project of becoming a new species being via the efforts of science and technology. Posthuman is most commonly used as a synonym for transhumanism, although in some quarters it designates an environmental critique of the placing of humans over other animals.
3. *Dirty Harry* (1971) was followed by the character of Rambo (who first appeared in the 1982 movie *First Blood*). His clones are legion, from *Die Hard* (1988 and following) to the Bourne series, to *Jack Reacher* (2012).
4. Kaczynski sent a letter to one of his victims, computer scientist David Gelernter:

   > Dr. Gelernter: In the epilog of your book, "Mirror Worlds," you tried to justify your research by claiming that the developments you describe are inevitable, and that any college person can learn enough about computers to compete in a computer-dominated world. Apparently, people without a college degree don't count. In any case, being informed about computers won't enable anyone to prevent invasion of privacy (through computers), genetic engineering (to which computers make an important contribution), environmental degradation through excessive economic growth (computers make an important contribution to economic growth) and so forth.
   >
   > As for the inevitability argument, if the developments you describe are inevitable, they are not inevitable in the way that old age and bad weather are inevitable. They are inevitable only because techno-nerds like you make them inevitable. If there were no computer scientists there would be no progress in computer science. If you claim you are justified in pursuing your research because the developments involved are inevitable, then you may as well say that theft is inevitable, therefore we shouldn't blame thieves.

5. One finds the occasional recognition of this point among transhumanists, e.g., Hopkins (2011), who distinguishes between low and high transhumanism, the latter concerned with "joy, enlightenment, contentment, and even moral perfection." But usually it's all technology, all the time.
6. My point here, and throughout, isn't to enter scholarly debates surrounding Darwin or to chart his possible influence on Nietzsche's thinking. I simply refer to the commonplace that *On the Origin of Species* represents the end of the tradition of natural theology, which for Nietzsche implied the death of god. Darwin is representative of the epochal shift in Western culture, from

understanding the natural world as being purposive and providing metaphysical and ethical guidance for humans, to our current era, which see humans as being, in Sartre's words, "a useless passion."

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2 Beyond the Human Condition

> What makes the transhumanist movement so seductive is that it promises to restore, through science, the transcendent hopes that science itself has obliterated.
>
> —Meghan O'Gieblyn[1]

1

Social commentary is most persuasive when it travels undercover. *You Can't Take It With You* (1938) is a screwball comedy directed by Frank Capra. It presents as light entertainment: surrounded by a lot of colorful characters, a cute couple falls in love, suffers from family strife, and reconciles at the end. But as was common for Hollywood under the Production Code, the lightness hides a more serious subtext.

The film presents two worldviews in conflict: one work-oriented and self-interested, the other home-based and artistic. Banker Anthony P. Kirby returns from Washington after having been granted a munitions monopoly by the government. He's bought the 12 blocks surrounding his last remaining competitor in order to put him out of business. (How that's supposed to put him out of business isn't explained.) There's just one property needed to complete the plan. Kirby's real estate broker offers a massive sum for the place, but the homeowner, Grandpa Vanderhof, resists.

Or rather defers. The Vanderhof home runs by a Dionysian logic, filled with pranksters, untutored artists, and freethinkers. Grandpa suggests that his daughter, who is now a playwright because of a misdelivered typewriter, write a play on "ism-mania": "communism, fascism, [pause] voodooism"—capitalism criticized via omission. In the initial set-to over the purchase of the house, Vanderhof convinces one of Kirby's employees, a man named Poppins, to cross enemy lines: he quits his job and joins the Vanderhof household to build animated, pop-up rabbits. Members of the family make fireworks, play music, dance, and paint, not seeking to become professionals but for the love of the activity, as amateurs.

The movie ends with Vanderhof having won Kirby over: harmonica in hand, Kirby plays a duet with Vanderhof as both families celebrate. It's the triumph of both Marxes—Harpo *and* Karl—over progress and productivity.

But there's another element lurking in the background, which threatens to overturn the dichotomy of economics versus art. Vanderhof's granddaughter (Jean Arthur) is the secretary and sweetheart of Kirby's son (Jimmy Stewart). Stewart is having doubts about his father's cutthroat worldview and is attracted to Arthur, but he isn't particularly drawn toward the family mayhem. Instead, he wants to be a scientist. Plucking a blade of grass, Stewart rhapsodizes to his girlfriend:

> There's a tiny little engine, in the green in the grass, and the green in the trees, that has the mysterious gift of being able to take energy from the sun and store it up . . . if we could find the secret of all those billions of little engines we could make big ones, and then we can take all the power we ever need from the sun.

Rather than making bombs, or engage in artistic play, Stewart wants to discover an infinite power source. The clash between play and productivity is about to be rewritten by science and technology.

Criticized in his time for his naïve patriotism (aka "capra-corn"), Capra is largely forgotten today. Nonetheless, his storylines remain timely. In *Meet John Doe* (1940), an oil company mogul (a stand-in for William Randolph Hearst) takes over a newspaper and begins by "streamlining" things: hiring a hard-charging editor who fires much of the staff while demanding the rest create stories that boost circulation. The mogul is a threat to democracy, using his reach across the media landscape (in that era, newspaper and radio) to manipulate public opinion to place himself in the White House. He is defeated when the community reaffirms its solidarity in the face of earlier disappointment.

Today the media has changed—newspapers dying, radio a right-wing enclave, and Hollywood reduced to mostly superhero-and-explosion movies easily translated for international audiences. More recently these forms, and television too, have been crowded out by the internet. The classic era of the Hollywood studio system is now hardly more prominent than opera: my students are unable to identify either Humphrey Bogart or Bette Davis. This is more than a case of changing artistic fashion. As we will see in Chapter 4, Hollywood cinema decisively shaped our culture before it was overwhelmed by technological advance.

Our 21st-century captains of industry are based in Silicon Valley rather than Manhattan and owe more to Harpo than their predecessors (Kirby's offices certainly lacked LEGO stations and secret ladders between floors). They haven't run for political office yet, although they've bought major newspapers. And they've raised the ante on the notion of creative

destruction, not merely overturning industries but now seeking to change our very humanity. Whether or not they claim the title of transhumanism, they seek to increase our physical and mental abilities and lengthen our life span even to the point of infinity—or perhaps better said, of divinity.

Of course, these goals, and especially immortality, have been ardently desired for as long as we have known that we are destined to die. But science and technology are now venturing into territory previously reserved for myth and religion: scientists and engineers are turning toward a technical program of directed evolution that Steve Fuller (2011) has called Humanity 2.0.

The research project Calico is one of a number of well-funded efforts focused on tasks like the redefinition of aging as a disease. In 2015, Google was reorganized and became a subsidiary of Alphabet. Calico is Alphabet's research and development biotech company. Larry Page calls Calico "moonshot thinking around healthcare and biotechnology." The futurist Ray Kurzweil (now also at Google) advocates similar goals, as outlined in his 2005 book. Kurzweil sees ours as a transitional era where the aim should be to "Live Long Enough to Live Forever." Transhumanism has even progressed to the point where there is an American political party dedicated to its agenda: the Transhumanist Party.

The goals of the transhumanists strike some as fantasy. In 2015, Bill Maris of Google Ventures invested $2 billion in the life sciences with the goal of living to 500. Is this a scam? Is he crazy? But this is to pose the wrong questions, taking transhumanism literally rather than seriously. Transhumanism *is* a literal research project, with huge sums behind it both public and private. The Chinese announced plans in January of 2018 to build a 13.8 billion yuan ($2.1 billion) artificial intelligence park to the west of Beijing, as part of China's ambition to become the world leader in AI by 2025. In October 2018, MIT announced the creation of a new $1 billion college devoted to AI.[2] Anyone who dismisses the goals of the transhumanists does so at their peril, for today's naysayers may join other failed prognosticators who have discounted the possibility of radical technological advance.

Whatever degree of success projects like Calico achieve, in the near term or in the future, transhumanism has already made a crucial contribution to culture. Its goals may be a pipedream, but the clarity of its agenda has made explicit the tacit ends driving society. Consider the ambitions underlying the research programs of the US National Institutes of Health (funded at ~$34 billion/year), the US National Science Foundation (~$7 billion/year), the European Commission's Horizon 2020 (~$8 billion/year), and European Research Council (~$2 billion/year). All of them, in the spirit of Vannevar Bush, treat science as an infinite frontier. Whether these agencies—and the scientific and political communities they support—recognize the point or not, innovation endlessly pursued is de facto the transhumanist project.

Transhumanism is the coming to self-consciousness of an engrained and mostly unquestioned set of mental habits. These habits, and the values that result, are ubiquitous. They are splashed across people's hats and T-shirts. They are tattooed on people's skin (at a local pool hall, someone had "Freedom" tattooed on the back of his neck, was wearing a shirt with a bald eagle on the front, and sported a cap where the state of Kentucky had morphed into the shape of a machine gun). They are announced on license plates and bumper stickers. They are embedded in the storylines of our movies and videos; they constitute the memes that go viral. They are the seamless marriage of willfulness and capitalism enabled by science and technology.

Transhumanism makes clear the implicit philosophical tone of our times. It takes the dreams of men like Kirby, and by that curious Hegelian operation of the *Aufhebung*, destroys, distills, and reconstitutes them at a higher and more fundamental level. It announces the practical fulfillment of Descartes' dream that, once we had mastered that peculiar philosophy that we have come to call science, the mind (and now the body) will no longer be contained within any limits.

These pages explore both the political and metaphysical implications of this project, at the level of argument, and via the presentiments that have given birth to these goals. Concerning the latter, as is the case with nearly all of our goals, transhumanism does not first exist as an argument. Rather, it grows from an intuition concerning the basic nature and purpose of life. Heidegger named such orientations *Stimmung*: a mood or an attunement. My concerns are more practical and ontic than Heidegger's; he focused on fundamental ontology. This argument takes in sociological and political perspectives as well in order to explore the intuitive tenor of our time.

To put the point in another way, my concerns are as much with our culture's rhetoric as with its arguments—and with the tacit commitments that underlie both. Writers (and readers) of books like this suffer from an epistemic bias: they make arguments for a living, and so naturally suppose that arguments are what motivate people, even though in their own life (as well as in their faculty meetings) character and sentiment usually carry the day. Science and technology exacerbate this bias, for their outputs are a matter of logic, and in that sense, of argument. But then the uses they are put to are mostly a matter of sentiment and desire. Practically speaking, the world is run by the rhetoricians, those who weave narratives, which is to say by those who possess skills gained while acquiring supposedly worthless degrees in the humanities.

This means that rhetorical gestures and tacit attunements will engage much of my attention, through the consideration of art and cultural productions more generally. If you seek a quick description of the *Stimmung* to be questioned here, it consists of the aggrieved tone that has come to characterize so many of our interactions, the spirit that provokes license

rather than play, and prompts unrestrained desire coupled to driving, narcissistic, and finally immolating self-interest. It is the run-amok quality to our lives, driven by too much easily accessible technology. It is the mania for "innovation" at the cost of community, solidarity, and compassion.

For 50 years or more—some would say since the industrial revolution, or even before that—scientific and technological innovation has both disrupted and propped up society. The swings have become more and more severe: on the one hand a new iPhone, the delights of Instagram, and of Skyping your grandmother—wizardry which leaves us awash in excitement and delight—while on the other a loss of focus, the neglect of first things, and the acceleration of social dislocation and anomie. Perhaps the oddest thing about "move fast and break things," until recently the motto of one of our leading corporate entities, is the lack of revulsion the phrase elicited—the motto being a recipe for despair, purposelessness, random violence, and addiction. The causality of social anomie runs from science to technology, then to economics, culture, and finally to politics—a situation that Donald Trump distilled and exploited rather than created. Overt but overlooked, decisive but in the background, science and technology runs roughshod over our lives. Transhumanism promises to accelerate these processes.

This chapter marks out the signposts of our situation in terms of three areas: politics, metaphysics, and existential concern. Three thinkers—Hobbes, Arendt, and Nietzsche—will mark our way. They raise, respectively, the themes of democracy and human speciation, the philosophy of nature and the categories of human existence, and the function of god and the perils of human freedom. Having framed our argument, the chapter then ends with a turn toward sociology, where we examine the biases of contemporary debates about transhumanism.

2

Consider first the political implications of the transhumanist attempt to develop abilities, and a length of life, beyond the norm.

A political philosophy assumes a philosophical anthropology—a set of beliefs concerning the human capacity for reason and self-rule. The quarrel between ancients and moderns turns on differences in outlook on these points: Plato saw fundamental disparities between people, while the social contract tradition views human beings as being fundamentally equal in ability. In *Leviathan*, Thomas Hobbes is explicit on the point:

> Nature hath made men so equall, in the faculties of body, and mind; as that though there bee found one man sometimes manifestly stronger in body, or of quicker mind then another; yet when all is reckoned together, the difference between man, and man, is not so

> considerable, as that one man can thereupon claim to himselfe any benefit, to which another may not pretend, as well as he. For as to the strength of body, the weakest has strength enough to kill the strongest, either by secret machination, or by confederacy with others, that are in the same danger with himselfe.
>
> —*Leviathan*, Chapter XIII, "Of the Naturall Condition of Mankind"

Hobbes, of course, was no democrat: he saw equality as implying the need for a strong sovereign. But the belief in democracy would steadily grow across time, often aided by developments of technology (for instance, the rise of the penny press, and today's ubiquitous access to information via the internet). Democracy has become an unquestionable first principle, despite the obvious differences between people. Transhumanism will change this.

Hobbes served as Bacon's amanuensis for a number of years and was surely familiar with the latter's hopes that science and technology would lead to the transformation of man's estate. But Hobbes did not carry this point over to his political philosophy. There is no evidence that he thought science could produce differences in people so great that we could lose the basic equality that grounds his political thinking.

Of course, if he were introduced to the transhumanist program, he might point out that people with superhuman strength or intelligence can still be overcome by numbers, and those with doubled life spans can still be killed. But greatly augmented intelligence, physical ability, or longevity for the fortunate few also increases the possibility that any "secret machinations" by the many will be unsuccessful. The implications are clear: inequality born of technoscience—for how likely is it that these benefits will be equally distributed?—will lead to de facto speciation and the rise of a two-tiered social structure consisting of "augments" and "normals."

Moreover, speciation will likely result of any number of subspeciations driven by personal preferences and social functions. There will be warrior augments who can graze off the land, eliminating the need for packing food, with an enhanced resistance to pain, little or no need for sleep, and greater powers of strength and stamina (all of these goals are part of current efforts at the Pentagon; Nye 2017). There will be athletic augments specific to individual sports, intellectual augments for different disciplines, and precision augments for various social roles and sexual functions. Ironically, one possible result of all this is that authentic individuality could become tied to a lack of augmentation.

The rise of a class of augments could lead to any number of political stratagems short of the outright repeal of democracy. For instance, augments could be given multiple votes. Or we could end up with a new form of republicanism: normals could be allowed to choose from among

a slate of augments who would exercise the voting franchise on their behalf. But however events would work out, the bottom line is that it is unlikely that those with greater abilities would be willing to be subject to the whims of "normals." Conversely, normals, placated with entertaining drugs or technology (which as we will see, have now come to the same), might well be quite content to give up the burdens of self-rule.

These possibilities point toward a revival of the political tradition that began with Plato. Ancient political theory had viewed democracy as inherently unstable, too susceptible to the siren call of the demagogue. For the ancients, democracy suffers from a fundamental philosophical error: people are *not* created equal. Plato's gold, silver, and bronze categories mapped onto groupings of people with fundamentally different abilities. The best people are those with great intelligence, eros, and discipline—or to paraphrase Aristotle, those for whom both the reasoning is true and the desire right. The silver types lack one of these qualities, but with the support of the best people they could live a productive and happy life. The third group, however, whether because of nature or upbringing, lacks both intellectual and character virtues, and needs strict oversight.

The framers of the US Constitution, well aware of these views, put in place a system that placed limits upon democracy. This fact is well-known to students of political theory, but it goes unspoken in popular political conversation, which endlessly praises the virtues of democracy. Doubtless, the founders were swayed by the Enlightenment belief in the perfectibility of man via education. But they were also part of an elite who had read Plato. And so they sought a balance between democratic (e.g., elections every two years in the House) and republican (US senators with six-year terms, and elected by state legislatures) elements in the Constitution.

Over time, the guardrails they placed around democracy have fallen away. At first this happened gradually—thus the 17th Amendment, calling for the direct election of senators, wasn't ratified until 1913. But the shift has come in a rush in recent years, as the political system has been overwhelmed by the effects of new technologies: precision gerrymandering, the micro-targeting of political advertising (e.g., knowing that owners of Ford F-150 pickups vote Republican, and being able to home in on them), the fragmentation of the media landscape into millions of cacophonous voices, and the increasing sophistication of politicking by meme (e.g., the "death tax"). And note that all these factors arose *before* the technology-enabled manipulation of social media by bots and fake news in the run-up to the 2016 US presidential election. Together, they made possible the election of Donald Trump, an exemplar of Plato's demagogue except perhaps for his lack of competence.

These events have made the concerns about democracy voiced by Plato newly relevant. It was reasonable to praise the many virtues of democracy when there were practical limits to the degree of democracy that was

possible—when knowledge and power were localized and its dissemination difficult. Now, however, a person in Wyoming can have access to most of the information possessed by someone in Washington, DC—and just as instantaneously. This is matched by an unprecedented ability to connect up with kindred spirits across the globe via the internet. Not only has the internet made knowledge ubiquitous; there are no page limits on the internet. Nor is there much in the way of fact-checking. The gatekeeping of experts has given way to the shouts of populists.

Transhumanist advances, then, combined with growing unease with the excesses of democracy are liable to prompt a revival of the political dimensions of Platonism, where society is once again understood as consisting of different classes, grounded in transhumanist advances in biology. Recent events have already made it clear that democratic impulses are not as deeply rooted as we thought. Of course, people are loath to give back rights once they have been acquired. But the rise of de facto social strata will be aided by the development of the surveillance society, where gatekeeping functions can be gradually imposed. It is little short of amazing how easily people give up their privacy, whether through social media, discount scan cards for the grocery store, voluntarily carrying around a location device on their person (i.e., their cell phone), or the ubiquity of web cameras. These developments match with already accepted principles: democracy of opportunity can still reign even as a democracy of outcome diminishes (e.g., it's your own fault if you haven't been augmented). The majority of the population will be left with comfortable, well-fed, depoliticized lives.

China provides a glimpse of this future. The populace there is increasingly steered toward the types of behavior desired by the government. By 2017 the Chinese government had in place a network of *176 million* surveillance cameras, with 100% coverage in the capital of Beijing. The number is expected to grow to 626 million by 2020 (Hersey 2017). Utilizing the capabilities of AI for facial and gait recognition, the government is developing the ability to track every single one of its citizens. The government then combines this with a "universal citizen score"—like a credit score, but one that rates individuals not only in terms of their financial credit but also by their political trustworthiness. The score follows a person wherever they go—a higher number allows access to perks like faster internet service or a fast-tracked visa, while political postings, or such postings by friends, can lower one's score (China Daily 2015). China's communist party state thus incentivizes the types of behavior it finds socially desirable. A similar weaponizing of the information collected by Facebook or Google—or by the National Security Agency (NSA)—is leading to a somewhat more benign or "liberal" version of the cultural of control.

The traditions launched by Hobbes and Bacon—social contract theory on the one hand and the scientific revolution on the other—began

separately. But genres eventually mix. The political rarely remains merely political, as notions of equality (or differences in kind) imply theories of the self and vice versa. Similarly, scientific and technological advances change our social and political relations and our sense of the purpose of nature. A political philosophy always contains a metaphysics of nature, and a philosophy of technology a theory of meaning.

3

The Human Condition was published in 1958, when the internet and the Singularity had yet to be imagined. The term had been introduced in its current meaning by Julian Huxley only the year before:[3]

> It is as if man had been suddenly appointed managing director of the biggest business of all, the business of evolution . . . The human species can, if it wishes, transcend itself—not just sporadically, an individual here in one way, an individual there in another way, but in its entirety, as humanity. We need a name for this new belief: perhaps *transhumanism* will serve.
>
> (Huxley 1957; emphasis in original)

Nonetheless, Hannah Arendt was already concerned with what we call transhumanism. She begins her book by reflecting on the meaning of Sputnik, which she views as an event of momentous importance. Arendt notes the response of commentators, who celebrated Sputnik for capturing the "wish to escape the human condition" that expressed itself in "the hope to extend man's life-span far beyond the hundred-year limit." She sees Sputnik, and the questions it raises, as being fundamental to the future of humanity. Yet these questions were being left in the hands of scientists and engineers rather than politicians and thinkers. Her concern was prescient: even more than in her time, we live in a world of almost entirely laissez-faire scientific and technological development.

In responding to the ambitions of futurists, *The Human Condition* offers not an environmental ethic but instead a philosophy of nature. Arendt describes social and political life as conditioned by natural categories that make our life recognizably human. This puts her in opposition to the program of modern science, and modernity generally, which is dedicated to overcoming the givenness of our lives, so we may live in a state that Sartre calls radical freedom. Transhumanism seeks to actualize Sartre's account, embracing the idea of morphological freedom, the right to change and even dispose of our bodies for another vessel.

Transhumanists claim that what makes us human isn't tied to a particular material embodiment. This stands in contrast with Arendt, who *is* committed to our material embodiment as well as to the material conditions of our lives. Human activities operate within natural boundaries

and conditions. These are not limits that we simply give in to. As Mill notes in "Nature" (1874), living according to nature would lead to monstrous consequences. But it's also too easy to tell the naturalist that he's hypocritical when he takes antibiotics, because he should let his infection take its natural course.

Arendt casts her argument at a high level of abstraction. But it's possible to get quite concrete about the kind of limits that Arendt is (or at least I am) talking about—a topic I will return to in Chapter 8. The point to be emphasized here is that Arendt frames an alternative to the unconditioned life imagined by the transhumanists. Given the time she lived in, she could have only a dim inkling of the transhumanist program; nor were environmental concerns yet prominent. But her work still outlines the basic choice we face between transhumanism and nature.

Take two of her central concepts: *work* and *labor*. Works consist of those objects built to last, embodying values that, while not eternal, are enduring expressions of the ideals of a culture. The Parthenon is a classic example; so is New York's Grand Central Station, which dignifies the act of travel, and stands in sad contrast to the benighted version of Pennsylvania Station New Yorkers have been left with since 1963. The classic New England town green also constitutes a work: a church standing on one side and a town hall on another, with a gathering space spread before the two, a space to recollect oneself before engaging in the religious or civic activities to come.

Of course, these examples are dated, a point that speaks to the increasingly commercialized and privatized nature of our public spaces. Greater attention has been paid to architecture in recent years, even to the design of interstate highways, but this comes after a long period of soul-crushing construction that has left our cities littered with big box stores, tawdry post offices and tacky city halls, haphazardly thrown up and just as easily demolished. Town squares have given way to sports stadiums, themselves dynamited after a decade or two to build another even more gaudy structure. We've seen the commercialization of every public space—naming rights for stadiums and for our university buildings, shopping malls as our promenades—even as these spaces have been depopulated through the effects of another set of technological devices: radio, then TV, VCRs, high-resolution plasma TVs, cell phones, and streaming services.

Arendt's notion of work embodies the visions of individuals and the aspirations of a community, leading to the creation of enduring places of civic pride and communal gathering. In contrast, labor consists of those endeavors that must be done over and over again. Arendt sees labor as always involving an element of involuntary servitude. She means not only the wearying jobs that we submit to in order to hold body and soul together; she also means, preeminently, the repeated acts demanded by the body: eating and sleeping and personal hygiene. All these involve a type of slavery.

In the case of eating, this fact has become more obscured in recent times, as we have gained access to a variety of foodstuffs that would have astonished our ancestors. It is a useful exercise to try eating as people once did, and as the poor often still do, taking the same meal over and over again. I thoughtlessly conducted this experiment years ago, when I brought a sack of granola for a six-day hike in the Grand Canyon as my sole foodstuff. I went into it thinking the idea was cute; the result put me off granola for years afterward. But fancy or simple, the stomach makes its demands, which we satisfy only to feel its claims a few hours later.

Arendt sees modern culture as having collapsed the distinction between work and labor. For the Greeks, the point of labor was to be done with it—to the degree that this was possible, while getting what pleasure you could from it—so that they could focus on those things that reflected a truly human freedom. These were things that consisted of work and action—the latter a third element of natural givenness. For Arendt, action denotes the specifically political relations between people, not in the sense of campaigning or elective office, but instead consisting of those interactions that are dependent upon words—the appeal to values and the making of arguments. The attempt at persuasion, rather than the resorting to force, is part of the creation of a common human life. Conversation is needed because action responds to the existence of human plurality, "to the fact that men, not Man, live on the earth and inhabit the world." Men—humans—have different goals and values, which need to be worked out if we are to live together.

Labor, then, was to be marginalized to the degree possible, in order to turn to artistry (works), politics (action), and the *vita contemplativa*. But rather than turning from labor, and thus distinguishing between life's necessities and the more truly human activities, Arendt sees us as having chosen to expand our labors, and thus our servitude. We (over)produce in order to continue our consuming. It is a curious choice—one that, if you think about it, is hard to explain. Of course, toys are fun, and amusements add lightness to our days. But it was once a truism that a life of constant play eventually grows tiresome, and the time must come when childish things are put away. Perhaps this insight was driven by our technical incapacity to build ever more complicated toys, but it also reflected the insights of generations who found that their life was more fulfilling when it was dedicated to something more than sensuous self-interest.

Instead, we seem intent on pursuing an ever-expanding stream of consumer durables, and find nothing odd in Black Friday mobs or in lines that stretch down the block from the Apple Store to purchase the next iPhone. Evenings are spent passively watching light entertainment. It's our right, after all. And so it is. But it is curious that the moral dimension of how we spend our time has fallen away. We've lost the sense that a mature and fully human life means that we should eventually say, in the words of Bill McKibben, *enough*.

The Human Condition explores this re-evaluation of values, a path of thinking later traced by Alasdair MacIntyre and Albert Borgmann. But this tradition now runs head-on into a different set of cultural intuitions. Contemplation was once considered the mark of a person's seriousness; it is now ridiculed as idleness. Politics has gone from an effort to support the flourishing of our public selves to a minimalist, caretaker government and finally to a huckster's con, a smash-and-grab of the public treasury. We should not glamorize the past; Capra's movies testify to the fact that art was considered frivolous by many in the 1930s, and that politics has always had a vicious element. Still, something important has changed. Our lives are characterized by a lack of seriousness. For all the inadequacies of those who in the United States are called the Greatest Generation, a seriousness of purpose was a cultural norm. In contrast, I've watched a 40-year-old play Candy Crush on her iPad across the entirety of a nine-hour flight.

Finally, in a point that we will return to below, it is worth noting that the consequences of these changes are not limited to their effects upon our individual and social lives. All of these toys come from somewhere: they are all extracted from the environment, affecting the animals and plants and natural spaces that make up our home planet. Writing in 1958, the environmental dimensions of turning ourselves into *Homo laborens* were not uppermost in Arendt's mind. She does speak of a "waste economy," but her concern is with the effects that this has had upon our political life. We will see, however, that Arendt's argument can be expanded in ways that illuminate today's environmental concerns.

4

For purposes of clarity, it's useful to distinguish between the political and metaphysical implications of transhumanism. But in our lives, they exist as one common phenomenon.

For Arendt, modern science and technology represent "a rebellion against human existence as it has been given, a free gift from nowhere (secularly speaking), which he wishes to exchange, as it were, for something he has made himself." This language will cause ire in some circles. What could this mean? Many things can be viewed as free gifts, including heat and cold, and illness and death. Is she calling for the turning off of our air conditioners and the cessation of medical care? If not, then on what basis do we decide which of nature's gifts we should endure and even cherish, and which we're supposed to struggle against and overcome? Perhaps this whole way of thinking is absurd—or functions as a political ploy, as a means to enforce obedience.

This is a common response to Arendt's defense of the freely given. But her point isn't that we should accept or even embrace our limitations. She isn't asking us to give up on a sense of improvement or "enhancement";

properly tempered, our Promethean instincts constitute some of our finest qualities. Nor did she mean that limits should be forced upon us by others. I take her point to be that, in addition to her tripartite ontology of work, labor, and action—in fact beneath them all—Arendt is evoking the bare idea of limit, that the human condition means recognizing and maintaining one or another set of boundaries.

If you ask, which set, her answer is elemental: it is the simple staying of one's hand. A human life should not a life of infinite assertiveness. Eliade makes a related point in *The Sacred and the Profane* (1957). The sacred represents a boundary; the most basic aspect of the sacred is simply that it is not the profane. In our interactions we should sometimes make way for others, whether human, animal, vegetable, or mineral, and attune ourselves to the rhythms that surround us. A friend once mentioned that he had begun attending church. Not because he had become a believer: "I just think people should get on their knees once in a while." What one gets down before will be different for different people, and will vary with time and place. Moreover, this is emphatically not a call for others to tell us when and to what to submit. The point is to recognize that an authentically human life involves recognizing that we live within a larger flow of things, and that these things, these beings and rhythms, should sometimes supervene upon our own wishes.

To those who ask, "And why would we want to do that?" consider the concerns of the Madman. As I will discuss in Chapter 7, Nietzsche seems like a natural ally to the transhumanists, perhaps even a proto-transhumanist himself; after all, he called for the *Übermensch* and the re-evaluation of all values. But he was also acutely aware of the dangers of the unconditioned life. The theme makes up the subject matter of his most famous passage, section 125 of the *Gay Science*, the parable of the Madman.

Nietzsche's Madman is responding to the growing power of the Enlightenment's mechanistic philosophy. The Madman wanders the marketplace seeking god. Young men taunt him about his search: "has he gotten lost?" In response, the Madman turns and presents them with an accusation: "We have killed God, you and I." And what could it mean to kill a god, other than that all limits are gone? For what is a god if not the idea of a limit? Lacking a god, now anything is possible. Thus the death of God and the rise of transhumanism are inextricably interrelated.

But rather than simply celebrating this newfound and radical freedom, the Madman worries that this deed is too much for us:

> How were we able to drink up the sea? Who gave us the sponge to wipe away the whole horizon? What did we do when we loosened this earth from its sun? Whither does it now move? Whither do we move? . . . is not the greatness of this deed too great for us?

Humans need orientation and support to guard against infinite possibility. The Madman feared that infinite possibility is too much for us: "Does not empty space breathe upon us? Has it not become colder? Does not night come on continually, darker and darker?" Dostoevsky's Grand Inquisitor raised the same point: freedom is a wonderful thing, but too much is overwhelming. Most if not all of us need hedges to hem us in. Increasingly, the freedom that science and technology ushers into our lives is both liberating and terrifying.

Norms are disappearing from every aspect of our life. It's exciting. But beneath the excitement is a feeling of confusion, anger, and fear. The shattering of norms has come about through a number of factors, but science and technology has been the main driver of this process. Take two examples, one concerning privacy, the other from politics. We are recorded by webcams in our every passage through public locations. Many companies collect samples of body fluids to screen employees for drugs, while others require that we swipe in and out of buildings, recording our exact movements. And our road trips are trackable by our credit card purchases. This erosion of our privacy is made possible by information and communication technologies, which has occurred through no democratic process of debate.

Now consider politics. Many who are outraged by President Trump view him as the cause of the breakdown of social and political norms; but what made Trump's norm-breaking possible was first the multiplication of media outlets with the rise of cable TV, followed by the explosion of social media, sites like Facebook and Twitter, that upended a media consensus and opened the door to a flood of fake news. Trump stage-managed the angst and anger roiling the nation, itself driven by the dissolution of jobs and communities, which again was largely caused by technoscientific advance. Immigrants and minorities became scapegoats, and our attention is captivated by the smoke and flashing lights. Meanwhile the scientists and engineers remain the wizards behind the curtain, pushing levers and turning wheels.

These are conversations we are not having. Nor is this accidental. Adam Briggle and I argued in *Socrates Tenured: The Institutions of 21st Century Philosophy* (2016) that an entire type of thinking that was once done in philosophy and the humanities has been edited out of our cultural conversation. An intellectual tradition has been set aside, as the wider culture has been seduced by the ease and wonders of technology. Philosophy and the humanities have abandoned their traditional mission of general reflections for the securities of disciplinary expertise. Acting in the role of public intellectual does not serve the philosopher or humanist well when they come up for tenure, and so institutional incentives have directed humanists away from serving a public, culturally valuable purpose.

Which brings us to the final point of this chapter: the theoretical and disciplinary biases within the contemporary debates about transhumanism and about science and technology generally.

5

Arendt doesn't doubt our capacity to make over the human condition. Instead, she asks about the advisability of doing so. She notes that

> this question cannot be decided by scientific means; it is a political question of the first order and therefore can hardly be left to the decision of professional scientists or professional politicians.
>
> (p. 3)

First-order questions about whether we should remake the world—or ourselves—are questions of philosophy and policy. Not exclusively, of course: the expertise of scientists and politicians should also be brought to bear, for there are technical details and nuances to be understood. Indeed, the conversation needs to be open to all, for the remaking of our species is a communal undertaking. Nonetheless, identifying the sources of meaning and the possibilities of living with integrity are the particular concern of philosophy, theology, history, and literature. Such philosophical or humanistic questions are everyone's business in a way that questions of chemistry and carpentry are not.

The absence of this discussion over the last 60 years would disappoint but not surprise Arendt. Instead, an aggressive libertarianism has been the default position concerning technoscientific development. There have been few if any occasions for philosophers to weigh in on these questions, although it is possible to point to cultural instances (e.g., *Dr. Strangelove*, the Pugwash Conferences) where people in the arts or humanities have managed to spur a wider conversation. One can also find cases where philosophers have addressed transhumanist themes both via their writings and in dialogue with companies like Google—for instance, Nick Bostrom and Luciano Floridi, both of Oxford University.

But overwhelmingly, the people thinking on issues surrounding the development of these technologies at companies like OpenAI and DeepMind have backgrounds in areas like computer science and public affairs (e.g., Edward W. Felten) and robotics and computation (James Manyika). Scholars like Arendt, whose dissertation was on the concept of love in St. Augustine, are rarely given the chance to contribute to these debates, and are nearly entirely absent from the ethics and society boards of the companies developing transhumanist technologies—as if these questions are not as much metaphysical and theological as ethical in nature.

The results of this absence are apparent in how the debate has played out. An April 2017 article in *Vanity Fair* titled "Elon Musk's Billion-Dollar Crusade to Stop the A.I. Apocalypse" (Dowd 2017) contained a figure that showed the range of opinion on AI among 15 prominent thinkers (notably, all men). These positions range from Stephen Hawking at one extreme, whose position is characterized as "not so fast," to Ray Kurzweil

at the other, who is described as advocating "hit the gas" (Figure 2.1). The graphic does not include a single person who raises the possibility of a pause in—that is, actually, stopping for a period of time—AI research in order to consider its ramifications, much less someone who argues that the entire research program should be permanently stopped.

The same is true of the article as a whole: the possibility of stopping or at least freezing for some time the development of AI is not even raised. It's a given that AI is coming; we are left to deal with the consequences as best we can.

This pattern repeats itself constantly: positions on technological advance range from cautious to enthusiastic advocacy. But what else should we expect from this cohort? In an article in a 2015 issue of *Nature* on the "Ethics of Artificial Intelligence," the three respondents asked to comment are:

- A professor of bioengineering, genetics, medicine, and computer science at Stanford University;
- A lecturer in robotics at the University of Bristol;
- A professor of computer science at Carnegie Mellon University.

Even the philosophers who have been involved (e.g., Bostrom and Floridi) fit within the spectrum of opinion between "go slow" and "go as fast as possible." It's been nearly 20 years since there has been a prominent representative of the position of "relinquishment"—but of course this was an engineer, Bill Joy. The greatest exception to this point was George W. Bush's creation of what came to be known as the Kass Council on Bioethics, which ended in 2005, and before that in the writings of Ivan Illich.

The same biases are also found within the press. *New York Times* columnist Thomas Friedman, a prominent writer on technology for decades, begins a 2018 column ("While You Were Sleeping") by declaring that he wants to take a break from wall-to-wall Trump commentary. Instead, his column will focus on quantum computing. Friedman revisits a lab he had been to a mere two years earlier; on the earlier visit he had come away impressed, but feeling that "this was Star Wars stuff—a galaxy and many years far away." To his surprise, however, the technology had moved quicker than anticipated: "clearly quantum computing has gone from science fiction to nonfiction faster than most anyone expected." Friedman learns that quantum computers will work 100,000 times faster than the fastest computers today and will be able to solve unimaginably complex problems. Wonders await, such as the NSA's ability to crack the hardest encryption codes—which does not raise, for him, a single concern about the possible loss of privacy.

Friedman does acknowledge that this increase in computing power will lead to the supplanting of "middle-skill and even high-skill work."

Figure 2.1 Range of Opinion on Artificial Intelligence
Source: Dowd (2017).

Fortunately, there is a solution at hand: education. Our educational system simply needs to adapt to the imperatives of technology. This means not only K-12 education and community colleges and universities but also lifelong worker training. Friedman reports on an interview with IBM CEO Ginni Rometty, who told him:

> Every job will require some technology, and therefore we'll need to revamp education. The K-12 curriculum is obvious, but it's the adult retraining—lifelong learning systems—that will be even more important. . . . Some jobs will be displaced, but 100 percent of jobs will be augmented by AI.

Rometty notes that technology companies "are inventing these technologies, so we have the responsibility to help people adapt to it—and I don't mean just giving them tablets or P.C.s, but lifelong learning systems." Note how things work: people adapt to technology, rather than the other way around. And if a job gets outsourced or taken over by a machine? Friedman then turns to education-to-work expert Heather McGowan, who tells him that workers "must reach up and learn a new skill or in some ways expand our capabilities as humans in order to fully realize our collaborative potential." Education must become "a continuous process where the focused outcome is the ability to learn and adapt with agency as opposed to the transactional action of acquiring a set skill."

Which should have brought Friedman back to Trump. Friedman (and Rometty and McGowan) fail to connect their enthusiasm for innovation to the results of the last election. Hillary Clinton lost the three states of Pennsylvania, Wisconsin, and Michigan by a total of 80,000 votes, in part because of the disaffection of white, non-college-educated men who have been hurt by previous technological development and who were angry about being marginalized by contemporary society. They sought a return to the past when they had a decent job and paycheck. Of course, Clinton knew all this, which is why her platform, Friedman-like, proposed a whole series of worker reeducation programs. But it turns out that a lot of coal miners are not interested in becoming computer programmers or dental hygienists. They prefer to remain coal miners—or more accurately, *not* coal miners. Trump rode their anger to the White House.

Friedman and his cohorts remain children of the Enlightenment: education remains the solution to the political problems caused by accelerating technological advance. This, however, assumes that "all men are created equal"—and not only in their ability but also in their willingness to become educated, and then reeducated again, and once again. Friedman does not seem to have considered the possibility that a sizeable number of Americans—or any other nationality—will remain resistant to constant epistemic reformation, and that rather than engaging in "lifelong learning" are likely to channel their displacement into reactionary politics. Nonetheless, no one raises the question of whether it might be time to question the cultural imperative of constant innovation.

When I make these points to scientists and engineers, the most common response is impatience. I am seen as engaging in special pleading, as if the world is obligated to create a works progress administration for philosophers. I am told that the scientists or engineers are raising all the questions that a philosopher would, that they are actually quite well-read in philosophy, that some of these people have majored in philosophy as undergraduates. The asymmetry here, how they would respond if a philosopher answered in a similar manner concerning the need for technoscientific training, does not occur to them. Among other things, this book is my argument for the types of perspectives philosophers can bring to this discussion.

The debate between the Kirbys and the Vanderhofs does not consist of a contrast between progressivism and reaction. It is rather a question of what counts as a fully human life. Perhaps the strangest thing about transhumanism is its denial of the reality that lies right before it, in that it seeks to make the leap to Humanity 2.0 when we have yet to master Humanity 1.0. By what moral calculus do we have the right to seek to live forever, when so many still live short and stunted lives?

Some will reply that technological advance eventually trickles down to the masses. But more than three million children under five die each year

from malnutrition, in a world that already produces sufficient food; why not address these needs before listening to the siren song of further agricultural research, which will exacerbate the distance between rich and poor? Malaria kills more than a million people a year, mostly children under five; rather than high-tech solutions, insect repellent and bed nets are quite effective. Mark Zuckerberg sees telepathy as the future of communication: no need for fingers or a voice box, just the pure efficiency of brainwaves. To others, however, it is a solution in search of a problem, and a solution likely to create a host of new problems, a case of what Morozov calls "solutionism"—inventing a problem, misrepresenting this fiction as a genuine and urgent need, and then advocating the use of technology to fix it. Look around at the lives truncated by the lack of basic needs and opportunities. How is the whizz-bang of telepathy going to address these problems rather than further augment inequality?

Notes

1. Meghan O'Gieblyn, "God in the Machine: My Strange Journey Into Transhumanism," *The Guardian*, 18 April 2017. www.theguardian.com/technology/2017/apr/18/god-in-the-machine-my-strange-journey-into-transhumanism.
2. Many uses of AI are mundane, quite distant from the transhumanist goal of artificial general intelligence, machine intelligence that can perform any intellectual task that a human being can. But even these mundane uses contain transformative possibilities: ThisPersonDoesNotExist.com is an algorithm that creates an infinite number of fake faces, which can be combined with "A new algorithm that writes convincing prose could be used to automate the writing of fake news." https://bit.ly/2TTtKPI.
3. Perhaps the first use of the term was in the 1814 Carey translation of Dante's *Divine Comedy*, describing Dante's state when ascending the spheres of heaven as his flesh was transformed.

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3 Life in the Transition

1

Perhaps I've been barking up the wrong tree. Criticizing transhumanism as a prospective research program assumes that it hasn't already occurred.

We talk with—and see—people in real time on the other side of the planet. We soar above continents in metal tubes traveling at 500 miles an hour. Our cyborg existence includes cell phones, eyeglasses, cosmetic surgery, Zoloft, knee replacements, Viagra, flush toilets, Skype, cochlear implants, the cloud, space flight, electricity, and ibuprofen. Our life expectancy has doubled since ancient times—at least in developed nations—and is half again more than it was in 1950. The issue, then, isn't whether we should embrace the transhumanist program; it seems we did that long ago. By the standards of 1850, much less of ancient times, we're transhuman.

There's another, more politically fraught way to put the point. Picture two cases. On the one hand, a prep-schooled, Stanford-educated man who, whatever his natural endowments, looks great in a tight shirt thanks to his personal trainer, and who tests out high on IQ tests and Graduate Record Exam (GRE) scores. On the other hand, a woman who grew up in the projects, the offspring of a single parent, whose mother smoked and drank through her pregnancy, who did not make it through the inadequate high school that she attended, and who gets pregnant at 19. Imagine that they were born in the same year. Thirty-five years later they both work at Amazon—the one in the corporate office making a quarter million dollars a year, the other in shipping at $17 an hour. Isn't one enhanced compared with the other?

Reframe the question, then: how transhumanist do we want to be? Put differently, why halt technological advance today, rather than 25 or 50 years ago, or 50 years hence? Movies from a couple of generations ago (e.g., *Dark Victory* [1939], or *Mildred Pierce* [1945]) remind us of the appalling toll of earlier medical practice, people dying of injuries and diseases that are easily addressed today. Or more prosaically, the diminishment of life through everyday aches and pains, now alleviated

by over-the-counter drugs. (Ibuprofen was approved for use in the United States in 1974.) Shouldn't we be working to lessen future suffering, as our ancestors did for us?

A critique of transhumanism faces these two challenges—whether the game is lost, because we're already transhuman, and why now marks the point at which we should slow or stop technoscientific development. The first issue turns us toward questions of definition and periodization. In 2015 Mark Shiffman reviewed the work of Steve Fuller. Fuller had recently published a defense of transhumanism titled *Humanity 2.0* (2011). Shiffman found Fuller's arithmetic to be faulty: by his reckoning, we are already at Humanity 4.5. He sketched a Christian and mythopoetic account of the evolution of humanity and described Fuller's version of transhumanism, and transhumanism generally, as "an extreme expression of the libertarianism that is spreading through American society." Extreme libertarianism, because transhumanism embraces the idea of morphological freedom: our bodies and minds are our possession to modify as we wish.

Setting the details of his story to one side—on his account, Christianity marks the inauguration of Humanity 3.0—Shiffman is right to criticize the binary nature of Fuller's account, which implies that humans haven't been enhanced in one way or another since the Pliocene. But I'll leave the debate about the proper periodization of human cultural evolution to others. I want to focus on what I see as the more pressing issue: the question of measure.

As noted in Chapter 1, while it isn't recognized, transhumanism is the de facto policy of academic and research culture. How could it be otherwise, when there is no endpoint to any part of knowledge production? Across the disciplines, whether in physics or philosophy, research goes on forever. Today, however, it's time to ask, shouldn't there be a point where knowledge production should end? Might there not be an Aristotelian mean to knowledge, in the sense that we can have too much as well as too little of it?

Before turning to this, the subject of this chapter, there's one additional point to consider. It's the question of hypocrisy: how is it that beneficiaries of centuries of scientific and technological development now seek to criticize that development? More particularly, I type this critique on a Wi-Fi-enabled, 13-inch MacBook Air while on sabbatical, in a cabin in Wyoming, ten miles from a town of 20,000. When I tire of my views of the Hoback River and the Gros Ventre Mountains, I can drive my computer-assisted vehicle to town for a *pain au chocolat* and a loaf of artisan bread. Or I may decide to stay in my latter-day Hütte: much of the world's knowledge remains a click or two away. Let's pause for a moment while I throw another log on the fire, pour a glass of wine (imported from Spain), and download another PDF, before I delve further into the evils of technoscience in the service of global capital.

It's a fair point. Like all of us, I'm caught up within and enjoy the fruits of several centuries of scientific and technological progress. But does that mean that I and others cannot criticize the status quo, or the plans that our savants have for our future? After all, it's common to be caught up in the system that one wants to criticize. The best that one can do is to acknowledge one's complicities, keep hypocrisy to a minimum, and accept criticism when inconsistencies are pointed out.

Turning, then, to the question of measure: our status as already quasi-transhuman raises difficulties for critics of transhumanism, as it seems to undercut the basis for criticism. Is it possible to establish a reasonable standard for determining too much, too little, or the right amount of technology, or of knowledge generally? This question troubled Werner Marx (1983), who identified measure, the dividing line between the fit and unfit, the proper and improper, as the first issue of ethics. Similarly, both Nietzsche and Heidegger viewed the lack of a measure for our lives—a standard for judging human behavior, and a way to distinguish between good and evil—as the source of the cultural crisis of nihilism.

The debate over measure has been a binary one since the mid-19th century. On the one side are those who embrace one or another version of onto-theology, holding onto a religious or metaphysical basis for propriety and limit. On the other are those whose views are fundamentally libertarian, having concluded that no non-arbitrary standard can be found, and we are therefore free to do as we wish. The challenge, taken up by Werner Marx, Heidegger, Borgmann, and others, has been to identify a third way. The third way that I offer, described in Chapter 8, consists of a philosophy of nature based in what might be called a phenomenology of our geologic embeddedness.

Attempts at a third way are often rooted in a phenomenological approach to our situation. Phenomenology and existentialism see our lived experience as the inevitable starting point for any analysis whatsoever of the world. Phenomenology sees scientific and especially Darwinian accounts of a natural world as being inescapably derivative in character. They are based upon a theoretical stance, presupposing what they purport to prove. They cut our ties with the world, only to then claim that the world exists separate from us. Phenomenology asks us to acknowledge our original embeddedness in a world filled with meaning.

This approach will be prominent in the next chapter, in my account of classic Hollywood film and the pervasive effects of cultural productions in promoting the transhumanist worldview. It is also fundamental to the philosophy of nature I develop in the last chapter. In like manner, the present chapter finds a governor to our intellectual activities in the natural tempos that form the background to our lives. The technological advances we now are experiencing are too much of a good thing; as Illich puts it, we've crossed a second watershed, and our tools are now as likely to debilitate as to liberate us.

The account of transhumanism tendered in this chapter—reserving the right to lodge other objections from other points of view in other chapters—is based in a reading of Aristotle's ethics. To put the point in Aristotle's terms, the question is whether the notion of a mean, which he saw as governing the character virtues, can be extended to our intellectual activities, or as he would say, to the intellectual virtues as well.

These points revisit claims made in *Sustainable Knowledge* (2014). There I sought to reframe discussions of interdisciplinarity in terms of sustainability. Interdisciplinary approaches to knowledge have become de rigueur, but if we are going to take interdisciplinarity seriously we must recognize that it implies limits to knowledge. I argued there that we need to expand our current understanding of sustainability, which is recognized as having cultural, economic, and ecological parameters, to encompass a fourth concept, epistemic sustainability. There needs to be limits to knowledge production as well as to material production and consumption.

The notion of epistemic sustainability highlights the view that we suffer from a wasteful and increasingly destructive overproduction of knowledge. Excess knowledge breeds incoherence (because no one can master more than a corner of knowledge), technocracy (the increasing need to defer to experts), social gridlock (via the deferral of hard decisions, out of the often spurious sense that new knowledge will offer a technological fix or will be sufficiently clear evidence to compel consensus), and the loss of autonomy (via the instantiation of Hegel's master-slave dialectic, as we become the tools of our tools). Endless knowledge production leads to unending technological innovation, some of which is "ecological" in nature, in that it leads to the more efficient use of resources, but also prompts the continual expansion of consumerism, various types of social disruption, and the overall pillaging of the environment. The perils of the overproduction of knowledge need to be recognized and addressed if society is going to transition to a truly sustainable lifestyle.

This work explores the logic of restraining technological development by searching for a balance between technological advance, self-determination, social harmony, and the protection of the natural world. Our (usually tacit) commitment to the idea that there is no such thing as too much technology, and our belief that the process of technological development could and should go on forever, is an act of hubris that breeds personal, social, and natural forms of backlash. The worldwide rise of fundamentalism, populism, and other forms of reactionary behavior—what Obama referred to when he noted the motivations that led to "people clinging to their guns and Bibles"—indicate that this backlash is already well underway.

We turn, then, to Aristotle to explore the question of epistemic measure. With his help I will explore a set of assumptions that are rarely questioned. Standing near the beginning of our tradition, Aristotle helps

us see issues that have become obscure over time, but which form the basis of the *querelle des Anciens et des Modernes*. Aristotle is concerned with whether a sense of the proper attaches to human life. He asks about what counts as knowledge, and how knowledge relates to issues of character and desire. But he does not ask the question that presses upon us today. It's clear that we once had too little knowledge; but might we today, or might we at some point in the future, have too much?

2

> . . . and since happiness cannot exist apart from virtue . . .
>
> —Aristotle

The *Nicomachean Ethics* approaches ethics in ways that are foreign to modern sensibilities. For some 200 years, ethics has consisted of a search for a rule, such as Kant's categorical imperative or Bentham's greatest good for the greatest number. From these rules flow talk of rights and of what people owe to one another. Aristotle's views are prior in time, but they feel like an innovation: his ethics is concerned with what kind of person you will be, via the cultivation of a set of virtues, qualities such as generosity, temperance, prudence, and courage. We still use this language with schoolchildren, but rarely thereafter.

The decisive difference between ancients and moderns turns on the question of purpose. Aristotle's ethics is concerned with our living a life that's in keeping with our nature. This nature is understood as something more than a brute physical factum; rather, human life has a *telos*. Ethical evaluations are made in terms of how faithfully we live in accordance with our nature as an animal who possesses the capacity for *logos*.

In contrast, ethics in the modern era is libertarian in orientation. Since our existence, like everything in the universe, is an accident, modern ethics begins from the perspective of an autonomous, morally neutral creature who can make claims upon others, and upon whom claims can be made, solely on the basis of freely established relationships. For Aristotle, there are things that we are supposed to be doing, in order to be consistent with our nature as rational and political beings. We are born into relationships that entail ethical obligations. For modern culture, there is no function or larger purpose to our lives except insofar as we invent one for ourselves.

This contrast plays out in contemporary culture. In 2018, the documentary film *Free Solo* was released. The movie profiles Alex Honnold, who sought to solo free climb (i.e., without any ropes) El Capitan, a 3,000-foot-tall sheer granite face in Yosemite National Park. The *New York Times* offers a typical reaction: "Alex Honnold's Free Solo climb should be celebrated as one of the great athletic feats of any kind, ever."

My own conversations with people show a similar response. It's impossible to know Aristotle's reaction, but I'll hazard a guess: he'd find something disquieting as well as admirable in Honnold's feat. Certainly it's a unique accomplishment, but it's also both trivial and alarming. Trivial, for there's nothing important at stake in climbing a cliff face. If Honnold fell to his death, it would not be for some larger end, other than for the often-cited notion of "human achievement." (Surely we celebrate not all achievements, but rather the significant ones.) And alarming, for Honnold risked the happiness of family and friends for a frivolous exploit—although as is often the case, he frames his activities in Rousseauian terms as the pursuit of his personal passions.

Contrast this with the case of Joachim Ronneberg. Ronneberg, who died at age 99 in 2018, was the leader of a nine-man raiding team that destroyed a Nazi war plant in Norway in 1943. The plant was part of the Nazi effort to build an atomic bomb. Sleeping by day, the men skied at night for several days in subzero temperatures, slipped past guards and a barracks of German troops, climbed a 1,000-foot gorge and crossed an ice bridge, stole into the plant, set explosive charges, and blew it up. They then skied more than 200 miles to Sweden to reach safety. None of the men expected to survive; all carried cyanide pills in case of capture. Here life was risked for a higher end. Our unwillingness to recognize the difference between these two efforts, or to criticize someone's life choices by measuring them against standards of meaning and human excellence, is of a piece with the loss of the sense of a larger purpose to our lives.

Aristotle connects questions of what we now call epistemology to questions of character and ethics. As he notes in Book VI of the *Ethics*, "good action and its opposite cannot exist without a combination of intellect and character." Where Aristotle (and Plato) thought that reason could control the passions, and sought to educate our desires, modernity views reasoning as instrumental and the servant of the passions. Freud is typically modernist in outlook: our desires, sexual or otherwise, are polymorphously perverse, and social norms are simply the idiosyncrasies of individual cultures. This view still obtains. At first glance, the recent development of virtue epistemology appears to be Aristotelian in nature, but the "virtues" spoken of—qualities like fairness and open-mindedness—are simply procedural, those needed for contemporary epistemology to go about its business.

Aristotle considers the character virtues in Books II through V of the *Ethics*, where he discusses the nature of virtues like courage, liberality, magnanimity, and wit. The character virtues, which come about partly by nature but also consist of those behaviors we have become habituated to, are ruled by a master principle. This is the doctrine of the mean, the search for a space between the too much and the too little. Not that everything is subject to a mean: there is no mean to thievery or murder. Aristotle also notes that the mean adjusts to both people and circumstance—for

instance, liberality will turn in part on one's resources, and one's anger should be appropriate to the situation. Overall, however, wisdom lies in moderation, and both lack and excess are to be avoided.

Aristotle turns to the intellectual virtues in Book VI. (The amount of time he spends on the character versus the intellectual virtues is worth noting.) He treats thinking as itself a virtuous activity (or not), rather than simply being something that one may be skilled at. Reasoning should lead to a good end, where "good" is judged in terms of it fulfilling its nature *as* thinking. It's not merely incorrect but *wrong* to not follow out an argument to where it leads. This contrasts with the belief that scientists and engineers are absolved of responsibility for the effect of their creations. Rather, they have an obligation to think through the possible consequences that flow from them. The fact that Ted Kaczynski's lawyers sought to enter an insanity defense at his murder trial (Kaczynski then dismissed his lawyers) reflects the difficulty of our imagining that moral outrage could reach back to the intellectual creators of our tools. A team of forensic psychiatrists diagnosed Kaczynski as suffering from paranoid schizophrenia—although two prison psychologists later argued that the diagnosis was political in nature.

Aristotle finds the intellectual virtues to be five in number. This enumeration, however, becomes problematic, for he defines one of the five, *sophia* (wisdom), as consisting of the combination of two others, *nous* (intuitive reason) and *episteme* (mathematical knowledge). The two other intellectual virtues, *techne* (craft knowledge) and *phronesis* (prudence), are in terms of wisdom left to one side.

Phronesis is usually rendered as prudence or practical wisdom, but practical wisdom doesn't count as real wisdom for Aristotle. His decision to exclude it from *sophia* reflects his separation of theoretical and practical wisdom. He notes that "it is absurd for anyone to believe that politics or practical judgment is the most serious kind of knowledge." One might suppose that having a good intuition and a sound logical procedure flowing from it would find its fulfillment in practical activity. One could also imagine including *techne*, skill at making things, within *sophia*, for the ability to design tools or objects that improve our lives is also part of the practical fulfillment of wisdom. But Aristotle's bright line between theoretical and practical knowledge make such inferences impossible. Theoretical knowledge is limited to the universal and necessary; it cannot adjust to circumstance. It is only in the modern era that *episteme* and *techne* are combined, in the creation of experimental science and technology.

My concern here is with the fact that in contrast to the character virtues, Aristotle's intellectual virtues lack a governing principle; in other words, I seek a measure for reason. It's perhaps to be expected that, given the state of knowledge in ancient Greece, Aristotle would not feel it necessary to put a governor on knowledge. But technology is now so sophisticated that

it consists of black boxes for everyone but a small cohort of experts, and the days of tinkering on one's car are long past. It's time to ask a question that Aristotle did not: can there be an excess of knowledge?

The question can be approached in different ways. For instance, the intellectual virtues could be governed through their connections to the character virtues. The 1957 movie *The Spirit of St. Louis* recounts Charles Lindbergh's 1927 attempt at being the first to fly solo nonstop from New York to Paris. Lindbergh works with the Ryan Airplane Company in the design and building of the airplane, turning lathes and metal presses, and stretching fabrics to shape the airplane. The technology is human-sized, and the plane is built and flown through an artful meshing of human courage and skill and machine tools. The machines involved are not so powerful as to overwhelm the roles of human strength and ingenuity. It's a balance that's increasingly elusive to find, a point made by test pilot Chuck Yeager when he described Mercury-era astronauts as "spam in a can." Aeronautical technology had grown so autonomous and powerful that pilots were reduced to the role of passengers.

Of course, in exploring these questions one doesn't have to be limited to Aristotle's categories. We divide knowledge differently today, most commonly by the academic scheme of the natural sciences, engineering, the social sciences, the arts, and the humanities. But these categories leave us with a truncated view of practice. Aristotle's classification is still useful, for it allows us to include types of knowledge (*techne, phronesis*) that are rarely part of conversations about epistemology.

Let's return, then, to the question of a mean and see if it makes sense in terms of his intellectual virtues. Beginning with *sophia*, it would seem to be like murder, but in the opposite sense: wisdom is something that a person cannot have too much of. But framed in terms of Aristotle's definition, the question becomes whether there can be an excess of *episteme* and *nous*. Aristotle defines *episteme* as knowledge of the eternal and necessary. Rather than our modern sense of experimental science, Aristotle has in mind the rigors of geometry. The only danger of excess here would seem to be whether too much time devoted to geometry could lead to the neglect of other tasks. Similarly, it hardly seems possible to have an excess of *nous*, our capacity for intellectual apprehension, or the ability to recognize whether a universal applies to a particular situation. As with *episteme*, the language of deficiency and excess is misplaced: the intellectual apperception is inherent in every act of judgment.

This brings us to *techne*. Aristotle defines *techne* as knowledge of how to make things, the skills of the craftsman in the working of materials (Aristotle offers the example of home building). One can imagine various reasons to place a limit on the creation of tools—physical danger, social instability, environmental damage—but given the state of craft in his time, and the lack of a cultural imperative that prioritized "innovation," craftsmanship was self-limiting. Aristotle also notes that the craftsperson

typically does not understand the causes of the things he makes. The craftsperson is a tinkerer: he lacks systematic knowledge. But if it is possible to combine *episteme* and *nous*, why not *episteme* and *techne*? Aristotle does not mention the possible marriage of the two, although he would have been aware of instances where the two were already united, for instance in the use of geometry in the surveying of land.

The history of tinkering (i.e., the creator who lacks systematic understanding of his creation) is a long one. It is only in the last century that society has transitioned to a systematic approach to the creation of technology. The passing of the tinkerer can be dated with the death of Edison in 1931, and even now there are prominent areas of research that remain largely hit or miss, for instance in the development of new drugs. It's taken a long time to thoroughly weave together *episteme* with *techne*, combining the interventionist philosophy of Bacon and Descartes, with its sense that nature was to be put to the vise, with the development of engineering skills sufficient to turn *techne* into modern technoscience. This uniting of making and understanding, of technical skill with scientific understanding, is central to the definition of the modern era.

Aristotle's neglect of the possibilities latent in combining *episteme* and *techne* is presumably rooted in his assumption that practical and theoretical knowledge mark out two very different terrains. He would be impressed by the abundance of today's implements and devices. But like Arendt, he would also likely be dismayed by how our material possessions have taken precedence over matters of more central worth. Nearly half of the world's population still lives in poverty, and nearly a billion people still do not have access to electricity. But for wide stretches of the developed world, people already have the resources to live a comfortable life. Despite this, there's little indication of a shift from Arendt's labor to work and action, or toward Aristotle's defense of the contemplative life. Instead, we grow ever more intoxicated by our toys. It's a childish life, which we will discover when we come to the end of it, if not before.

Finally, consider *phronesis*, political wisdom, or knowledge of how to act well concerning the general ends of life. While prudence itself seems to have no limit, it is the obvious candidate for a master principle overseeing the other intellectual virtues. Aristotle suggests as much at the end of Book VI (1144b15), when he notes: "some people say that all virtues are forms of wise judgement." But while its existence is still recognized in our daily practice, it's now largely dismissed as a matter of subjective opinion. To be clear: my goal is to have *phronesis* (or to speak with the Buddhists, mindfulness) recognized as the governor of technoscientific knowledge.

Hopes for social harmony and environmental sustainability depend on a re-evaluation of our values. Protecting the environment isn't only a matter of advances in science and technology; it also involves shifting our focus toward matters of human companionship and solidarity and a renewed appreciation of the contemplative elements of life—not joining

a monastery, but by giving more attention to non-consumptive activities like the appreciation of art, or gardening, and more basically the simple act of attending to the quality of the day. Given the world-transformative power that's resulted from the combination of *episteme* and *techne*, one suspects that Aristotle would quickly spot the choice that we now face: to either limit such knowledge, or to continue down the road toward transhumanism.

3

This chapter began in self-critique. It asked whether criticisms of transhumanism were undercut by the fact that we are already (partially?) transhuman. I've argued that overcoming this objection turns on whether a measure can be found for technological reasoning or knowledge more generally. Criticism of transhumanism does not imply that enhancement per se is the issue. Enhancement takes many forms, including education, diet, and exercise, as well as through technology. Transhumanism, however, raises its own distinctive set of questions, of whether technological reason, and the resulting forms of enhancement, are inconsistent with human flourishing or with the nature of the world at large.

I turned to Aristotle for help on these points. In the *Ethics* he proposes a measure for the character virtues. The doctrine of the mean is rooted in experience, or as Arendt puts it, the human condition. Aristotle analogizes from things like exercise and eating, noting that both excess and lack are destructive. He is silent on the question of whether there is a measure for intellectual activity, but the fact that he describes thinking in terms of intellectual *virtues* suggests that our reasoning also lives within the domain of ethics, the proper and improper. Thinking is more than a technical skill: it serves the good life. And the good life is something that can within wide boundaries be identified.

As we delved further into his argument it became apparent that Aristotle viewed *nous* and *episteme* as solely theoretical activities, and *phronesis* and *techne* of limited practical effects. Aristotle was left with no pressing need for a governor on intellectual activities. Twenty-four hundred years is a long time: he can hardly be blamed for having no inkling that knowledge would become a world historical productive force, and that craft knowledge, when combined with the rigors of *episteme*, the application of mathematics to the world, would lead to an endless supply of consumer goods. Or that nonproductive and non-consumptive forms of knowledge (i.e., those surrounding politics and the arts and humanities) would, in a reversal of views, be relabeled as "useless."

Aristotle's intellectual categories were revisited with a view toward measure. I asked whether each should be pursued in an infinite manner, or be subject to a mean. While the lack of a measure made sense on his own terms, and for his own time, technoscience, the modern combination

of something like *episteme* and *techne*, does call for a mean. Transhumanism is the modern technoscientific spirit come to self-consciousness. Technoscience today needs a vibrant sense of prudence or mindfulness to serve as governor of its efforts.

This claim can be grounded in our experience. Technoscientific knowledge need governing because it increasingly disrupts the natural rhythms of our life. Chapter 8 discusses the views of Paul Shepard, who raises questions about the relationship between our psyche and the natural environment. Shepard argues that our consciousness co-evolved with nature, but that this original evolutionary environment has now been pulled up by the roots. The result is a kind of rational madness. In the space of a few years we have banished the darkness via electricity, created machines that fly across oceans, and expanded into a global culture. We now treat it as normal to walk down the street with heads turned downward, entranced by the glowing screens of our personal computer, receiving messages from across the globe.

Shepard doesn't call for us to return to the glories of the Pleistocene. We live in a built environment and are in many ways the better for it. My iPhone sits at the ready, and I am glad to write these words in a word processing program rather than on parchment. At the same time, however, our lives are overstimulated and drug- and technology-addled. Our embrace of continued technological acceleration is a type of addictive behavior, or attention-deficit disorder, and what was once desirable behavior has slid into dysfunction.

A mean to technoscientific knowledge would embrace technologies that restore our functions, and that match or augment our natural abilities. But it would also be cautious about, and even shun, technologies that overwhelm us, moving at a speed or with a power utterly beyond our natural abilities. A doctrine of the intellectual mean would reject the view of Newt Gingrich, who claimed that "we need to move at the pace of technology, not the pace of bureaucracy" (Eilperin 2018). Technological advance needs to acknowledge human limits, in recognition of the fact that to be human is to be conditioned. Powers that wildly exceed our natural condition threaten to leave us debilitated rather than enhanced. The transhumanist project of seeking to greatly increase our abilities to match our technologies will leave us with a life that is unrecognizable as a human one.

These are generalizations, and vague ones at that. There is no hard and fast rule to be found here. We will come across hard cases and will find various exceptions. To be clearer about what I am getting at, medical advances that restore our functions should be celebrated. Similarly, with machines that greatly enhance our strength and skill. But technologies that are utterly beyond any possible human capacity to comprehend—I am particularly thinking of information technologies, and artificial intelligence—threaten to leave us overwhelmed and dispossessed. For

instance, it is not clear that the internet has been on balance a good thing. It has provided us with a thousand benefits. But it has also opened a Pandora's box of problems: downloadable recipes for bombs and 3-D printable guns, the possibility of cyber-warfare and DIY biohacking, and the oxymoron of "virtual communities." The internet has made the writing of this book much easier. But it has also spawned an information culture that makes it nearly impossible for this book to avoid being swallowed up by the daily onslaught of information.

Despite Aristotle's silence on the question, a mean for technoscientific knowledge is Aristotelian in nature. To be human consists of a limited number of capacities. Chief among them is the faculty for *logos*: not just instrumental reason, but also reasoning that is sovereign, that can rule over our desires. But this does not mean infinite *logos*. Our desires for self-determination and personal accomplishment means that our tools need to assist rather than dominate us. Similarly, our rationality makes politics possible: we are able to persuade rather than to solely depend on brute force. But this political nature is also conditioned: reasoning takes time, and is tied to our embodied nature, as we express our sincerity and passion for justice as well as our ideas in dialogues that are by their nature limited to a few people at a time. Technoscientific development has led to the decay of our social relations. Online communities, and communities of millions or billions of people, are communities in name only.

It is only in recent times that *libido sciendi* has become so dominant, as we entered the age of Faustus and Frankenstein. We've witnessed the breakdown of what Roger Shattuck (1997) called forbidden knowledge, and have forgotten how dubious the desire for knowledge once was. Physicians are perhaps the most prestigious professionals within society, but 200 or 300 years ago doctors were an unsavory lot, violators of social convention, suspected of grave robbing and experimenting upon and cutting into human flesh. We've overcome what Kass calls the wisdom of repugnance—or more famously, the yuck factor—and abandoned our traditional suspicion of change, which as any animal knows is dangerous.

Dostoyevsky noted that man can get used to anything. Standards of acceptability keep shifting, and no significant limitations are placed on scientific and technological development. Yes, there are regulations here and there, for instance within biomedical research concerning human and animal subjects, stem cells and human cloning, although it is unclear how effective these have been. But such restrictions are swamped by a continually expanding culture of innovation. The result, as Deneen notes, is "the submission of all forms of cultural life to the sovereignty of technique and technology" (2018, 150).

I do not put great stock in the yuck factor: we are repelled by different things, and what repels us changes over time. But we should be concerned with the overcoming of all such barriers, which leads to the denaturing of the self. Whether we call it transhumanism or view it in more ordinary

terms as part of the daily flow of wonders issuing forth from science, our narrative is one of continual progress. It forms the dominant cultural trope. An innocent, a child perhaps, has a terminal illness. There is a valiant search for a cure by a scientist. Finally, a new medicine is created, and the doctor saves the child through the further mastery of nature.

This narrative takes many forms—for instance, when an inefficient, frustrating fact of everyday life is overcome by the development of a new phone app. Such stories have purchase upon us because they've often been true. But these successes obscure another and more common side of scientific and technological advance: our impotency in the face of massive technocratic structures. We buy a new phone but have trouble setting it up; we're excited to load new apps on it but are confused by the plethora of settings and the erosion of privacy. We have a medical issue and find ourselves caught within a system of visits, referrals, tests, inconclusive results, partially successful treatment, "side" effects—which more accurately are simply "effects"—and then still more visits and tests. It's a ubiquitous phenomenon, plaguing our interactions with our credit card company or the filing of an insurance claim. The promised ease of technology turns into the frustrations of partially achieved goals and endless learning curves. Still, like the indigent person buying the lottery ticket, we still hope to be rescued by the *deus ex machina* of technological advance.

4

Perhaps it's worthwhile to drill down into an example. Dentistry represents one of the great success stories of modern science and technology. In the United States, one grows up hearing of the problems George Washington had with his wooden teeth. That's a canard—his teeth were made of ivory—but it's true that by the time he was inaugurated in 1789, Washington had only one tooth remaining. From the days of barbers extracting teeth to today, dental care has made tremendous strides, so much so that the formerly ubiquitous fear of the dentist has largely subsided.

So let us grant dentistry its success stories. But we can also ask whether we've approached what Illich calls a second watershed, where our tools are now as likely to debilitate as to liberate us. For things can also go like this:

> It's time for a teeth cleaning. You're greeted by a new hygienist—your regular one has returned to school. A recent graduate, she is friendly and attentive. She begins with a measurement of gum depth, a test that will now be done yearly. The test reveals that a deep cleaning is necessary. That's $460 on top of the usual $100, half of which will be covered by insurance. You've no problems with your gums, but lacking any basis for judging the situation, and trusting her manner, you say ok.

Work commences. Later the dentist comes in—new too, your previous one having moved on. She is friendly, efficient, and impressively articulate about the newest standards and technology. She does her inspection, and even provides a real-time video tour of the inside of your mouth with a tiny camera pen. The images are cast on the computer screen before you as she points out your dental deficiencies. It's a bit more intimate of a tour than you had in mind this morning. Explaining things throughout the tour, she declares there's work to be done: five crowns, four fillings, and some cosmetic repair on the front teeth. You had no known dental problems when you walked in this morning. Now, after the insurance pays its part, you will be out $6,500.

Negotiation ensues. Is all this really necessary? Can some of it be prioritized, and the rest spread out? The dentist is flexible and brings her impressive education to bear; you are intimidated by the blizzard of technical terms. The punchline: two of the crowns should be done immediately. There's upcoming travel that will take you out of town, but she can squeeze you in at the end of the week, and at least get the two temporary crowns put in.

You show up on Friday morning. The predicted two to three hours in the chair turns into four. Two crowns are put in. When the anesthesia wears off the pain begins. You call her for a pain prescription; she reviews the options with you over the phone and selects the best. It doesn't help; you call a friend who is a nurse, she recommends plain old ibuprofen, which does help a bit. You sleep that night, but by the next afternoon a tooth next to the crown is aching. By evening the pain is worse. Sunday is misery; Monday morning you call for an appointment—still planning to leave town on Wednesday—and are scheduled for Tuesday noon. At that exam, the dentist does additional tests, and determines the nerve in the tooth next to the upper crown is dead. You need a root canal.

You are now leaving in 18 hours. The dentist scrambles to find an endodontist who will do the root canal on short notice. The one she finds is 30 minutes away; you jet off for an impromptu root canal.

The endodontist's office is beautiful: the interior designer has done fine work. You sit for two hours before getting in. The endodontist is (again) impressively trained and articulate, and armed with what would once have been called space age technology. There are further tests: the tooth is cold insensitive (= dead nerve) but electronic pulse sensitive (= live nerve). The verdict: ambiguous. Your impromptu education in dental science continues, as the endodontist explains that the work on the upper crown may have disturbed the nerve in the adjacent tooth; when tooth pulp and nerve get irritated they swell, but cannot expand because of the hardness of the outer tooth material. The squeeze goes inward, and blood flow to the nerve gets cut off, the nerve gets strangled. The result: pain.

You're not sure you have any of this straight. A root canal may be necessary "soon" (Weeks? Months? It's unclear) if the swelling does not go down. She recommends a stronger anti-inflammatory and a different pain med and that we wait to see if the pain resolves itself without further intervention. She charges $155 for the consultation and tests.

You call the first dentist with the news. She disagrees with the endodontist' diagnosis. The nerve *is* dead. You are left with dueling experts and a mouthful of half-digested knowledge.

The next morning you leave for Wyoming. An hour out of town your mouth aches. An hour later the pain has taken over. Your dentist calls ahead to a pharmacy in Wichita with more pain medication. But before the script can be filled you must meet with the pharmacist to discuss the dangers of this prescription—it contains an opioid, and the opioid crisis, you know. Back in the car, you use your cell phone as a hotspot to hook up with your computer to look up dentists in Jackson, Wyoming. The internet reviews offer help for making an informed judgment; but what's the status of these reviews? Are they real, or planted by the dentists? Are the people venting, or giving good information? Moreover, it's December 20th, and all the dentist offices are booked through the holidays. You leave your number at a couple of places in case there's a cancellation.

Fortunately, there is a cancellation, on Friday the 22nd. Appearing that morning, there are nine pages of forms to fill out: dental history, medical history, personal habits, insurance coverage, next of kin. This is your third set of dental paperwork in the last week. The new dentist is also articulate, patient, and quite pedagogical, and the majority of the two hour visit is spent sitting up, getting an education on the multiple causes of tooth pain, complete with 3-D mock-ups of the stages of nerve damage and the specifics of root canals. You are thinking of becoming a dentist.

More dental pictures are taken, and you get another tour of your dental structures via x-rays. The crown on the bottom right is not level with the adjacent tooth, which means that that tooth is not hitting the crown on the upper tooth, putting more pressure on the tooth adjacent to the upper crown. Might the pain be related to the extra pressure? He proposes building up that lower crown with some filler. You can simply add a layer of material to the top of a tooth? He hands you a piece of clay-like material which you can roll in your hand. He then zaps it with a small ultraviolet pen: it's instantly as hard as a rock. Impressive! He does the layering to even out the bottom tooth, and then prescribes a third type of anti-inflammatory, plus a muscle relaxer to be taken in the evening before bed.

Arriving in Hoback, you are flustered and confused. How did this get so crazy? You review the past week trying to figure out how you should have responded differently. Positioning yourself by the

window, the winter light comes filtered by clouds, illuminating parts of the ridge across the river.

We all have stories like this one—cutting-edge technoscience gone awry. (This one totaled nine months of dentist's visits to get my dental health back to where it was when I first walked in for a cleaning.) It's hard to know the conclusions from such cases. Is it bad luck? Incompetent practitioners? The insidious effects of the profit motive and a classic case of the principal-agent dilemma? But underlying it all is the ever-onward push of science and technology, multiplying the opportunities for poor luck, incompetence, varying interpretations, and profit-taking.

Our times are distinguished by an aggressive and often ill-tempered libertarianism. And why not? We are constantly the plaything of forces dimly understood and beyond our control. Mistrust of government, long present, is growing; the United States has two political parties, one that disparages government and the other that offers halting half-defenses. But what if we've misdiagnosed the source of our problems, and the problem is not government, even with all its inadequacies and inefficiencies, but rather the creation of a life of infinite desire, which technoscience is always ready to slake? We've been party to the artful redirection of our anger, away from the corporations that rule over us, toward the one entity—government—that could defend us from their ever-growing control. And in the background, promoting the machinations of capital, is the ubiquitous presence of science and technology, urging us onward with the promise to satisfy every desire.

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Excursus I

The Practice of Philosophy in the 21st Century

Philosophy professors often tell a story to introductory classes. It concerns the term "philosopher"—that it means "a friend or lover of wisdom" rather than the actual possessor of it. The point of the story is to emphasize the radical openness of philosophy. Philosophy is about questioning things; as Descartes had it, it's about questioning everything—*universal* doubt. Socrates is contrasted with the sophists, who were people who thought they knew things. Socrates, the patron saint of philosophy, possessed a peculiar kind of wisdom, consisting of the knowledge that he knew nothing. The Socratic task, presented over and over again in the dialogues, is to demonstrate the learned ignorance of experts.

The odd part of this story is how it's forgotten once philosophers walk out of the classroom. For in their professional life, philosophers consider themselves experts. They are hired as specialists in one or another area of philosophy. They publish in specialist journals, writing for a small cohort who share their subspecialty. And rather than hanging out in public, like Socrates did, they work in their offices, at home, or at school.

Despite their avowals, the profession of philosophy has abandoned its allegiance to a Socratic view of philosophy. Now, perhaps that's OK. Perhaps Socrates didn't mean for people to take him seriously on these points. He was famous for his irony, after all. The story can be seen as one of false modesty. Philosophers would then be more candid if they quoted Hegel, when he noted in the preface to the *Phenomenology of Spirit* that his goal was to "lay aside the title 'love of knowing' and be actual knowing." The matter can be framed in another way. Philosophers sometimes note how the field has advanced since ancient times, especially across the 20th century, as the disciplinarians have gotten to work. Socrates might have not known so very much, but armed with our degrees and our scholarship, we do now.

But it's still curious that philosophers continue to repeat the story of Socrates. You'd think they would be more self-conscious about it. For it's time for us to fess up. We're not philosophers, we're sophists.

In contemporary parlance, to be called a sophist is to impugn someone's character. It implies demagoguery and deception. But for the Greeks, the

term had several meanings. First were the philosophical sophists, who had skeptical beliefs about the possibilities of knowledge. Protagoras, the most famous of these, claimed that experience is inescapably subjective: the same wind blows both hot and cold, depending on the person. *De gustibus non est disputandum* is raised to a general philosophical principle. More generally, however, sophists were simply people in the know, or as we say today, experts, people who instructed young men in skills such as horsemanship, warfare, or public speaking. Finally, there were sophists in the disreputable sense—people who were adept at making the weaker argument appear to be the stronger.

There are many philosophers (and social scientists) today who place themselves in the first category, relativists who believe that we are all trapped in a prison house of our own experience. But nearly all philosophers today are sophists in the second sense. Philosophers today are, or at least hope to become, experts. Not in all of philosophy, of course; that's too great of a domain. But in one or another subfield, ethics or logic or the philosophy of language. Thus we parse the job ads looking for a position in our area of specialty and competence.

In *Socrates Tenured: The Institutions of 21st Century Philosophy*, Adam Briggle and I sought to revive a more Socratic practice of philosophy. We did so by first distinguishing between disciplinary and non-disciplinary philosophy. Disciplinary philosophy is what has occurred across 20th- and now 21st-century philosophy, where philosophers became experts like academics in other fields. On the other hand, non-disciplinary philosophy, which constitutes the majority of philosophy across the previous 2,400 years, occurs when philosophers remain generalists and produce work of interest to non-specialists.

This distinction does not come readily to most philosophers. On more than one occasion the distinction has been translated into "real" versus "fake" philosophy.[1] In a turn that carries its own irony, it seems that in the eyes of some, unless you are a specialist in one or another area of philosophy, it's you who is the charlatan, aka sophist. It seems that today you have to be a sophist in order to be taken seriously as a philosopher.

Briggle and I tied the disciplining of philosophy at the beginning of the 20th century to an institutional cause, the rise of the modern research university. Intimidated by the success of the sciences, philosophers copied their approach and also became regional ontologists: they focused on a particular set of topics, just as was happening in every other discipline. It became a sign of their intellectual seriousness. This, we claimed, was a mistake; philosophy cannot be a discipline, or be disciplined, at least not in the sense of the natural and social sciences. As Heidegger notes, philosophy is a wild or errant type of thinking.

On this view, philosophy and the humanities are essentially inter- and transdisciplinary in scope. (Although there was no need to be doctrinaire about it. Disciplinary philosophers should also be part of the mix: the

scholar's loving, careful analysis also contributes to thinking.) To put the point in terms of the structure of the modern university, there needs to be a unit on campus whose task is to make sense of the whole of knowledge. Whoever takes on this role is *ipso facto* a philosopher.

Twentieth-century philosophy walked away from this task, intimidated by the rise of high-powered sophists in every other field. We lost our nerve and abandoned the Socratic project. As it stands, the modern university does a great job of thinking of the various parts of the world, but does little or no thinking of the whole—unless you count administrators, but their duties usually reduce their thinking to a set of bureaucratic tasks.

Within the discipline of philosophy, the 2,500-year history of Western philosophy hasn't been forgotten. But rather than being treated as a source of examples for all the different ways that philosophy can be done, it's become a site for its own kind of specialized work. The fact that philosophers lived and wrote quite differently in the past was ignored, or pointed to as a sign of philosophical immaturity. Our book title sought to emphasize the point that the great philosophers of the past wouldn't be able to get tenure today—unless their name was e.g., Spinoza—for they weren't specialists who read and published in the secondary literature. The point sounded like a joke, but we were quite serious in emphasizing the decisive effects of the material and sociological culture of contemporary philosophical practice.

These material effects—preeminently, the housing of philosophers within departments, and the invention of journals and a secondary literature—are not seen as having philosophical consequences. (As if how you live and what you are surrounded by doesn't affect your outlook.) But these material conditions were essential to the creation of the new model of the philosopher qua sophist. Philosophers turned inward, toward the profession, and the older role of the public philosopher fell away in the face of the drive for professionalization and the pressures of the McCarthy era. And as Reisch (2005) notes, the dominance of logic and analytic rigor, where philosophy was modeled on the sciences, fit in quite nicely with the political exigencies of the time.

This inward turn eventually bred a reaction. Beginning in the 1980s, applied philosophers responded to a variety of societal crises (environmental, engineering, biomedical, etc.) that demanded an outward turn of philosophy. On our account, however, applied philosophy was a theoretical success and a practical failure: while generating a great deal of careful theoretical work, applied philosophers were still directing their theorizing toward one another rather than toward the world at large. We labeled this process "disciplinary capture." One sign of this failure was the paucity of accounts in the applied philosophical literature where philosophers attempted to integrate their insights into the policy-making process. Another was the absence of a new genre within philosophy

concerned with the philosophy of impact—what counts as having an impact, and how it is measured or evaluated.

In response, we offered our own approach to a practice-oriented philosophy, what we call field philosophy. We summarized field philosophy in terms of five elements:

- Base your research in a specific case or situation in the world, rather than with a philosophic abstraction;
- Allow the people you are working with to frame the issue, at least initially, and commit to working with your partners over the long term;
- Place the insights you offer in the context of their use;
- Adjust your sense of rigor to your partner's demands of time, interest, and money;
- Embrace non-disciplinary standards for evaluating your success or failure.

This account was culled from our own efforts, in situations such as community work on acid mine drainage in southwest Colorado and the creation of a stakeholders' group on the issue of fracking in Denton, Texas.

By these standards, this book doesn't qualify as field philosophy. This isn't a criticism; there should be plenty of room for philosophical hybrids. And there are points where the argument does trend in that direction, in the inclusion of personal accounts of dentistry or in Hoback. The larger point, though, is the need to expand our range of what counts as philosophy. A comparison with the field of literature is instructive: society has been able to tolerate a wide range of literary types (the roman à clef, stream of consciousness, the epistolary novel, etc.) without falling into crisis. Whether this work is viewed as an essay in field philosophy or public philosophy more generally, transhumanism was chosen in part because of its fateful nature in terms of its implications for society.

Note

1. "It is good that someone who actually knows something about philosophy has taken the time to respond to the endless ignorant and error-ridden drivel produced by the University of North Texas fakers Frodeman and Briggle." http://leiterreports.typepad.com/blog/2016/03/soames-on-philosophys-interdisciplinarity-and-why-it-belongs-in-a-university.html.

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4 Aging Boys Will Be the Death of Us

1

Across the 1990s, *Seinfeld* (1989–1998) sat at the top of American TV ratings. The series chronicled the extended adolescence of four friends in their thirties. Each of the characters resists growing up. Jerry won't commit to a relationship, George can't hold a job, Elaine cycles through a series of ill-advised boyfriends, and Kramer, a failed inventor, lacks any visible means of support at all. Each is a postmodern version of Peter Pan.

The tone is quite a change from Capra's *You Can't Take It With You*. Rather than slacker humor, the Vanderhof home is high-energy bedlam. It's governed by a beneficent father figure. Grandpa Vanderhof mostly allows the fun to play out, but he steps in occasionally to set boundaries. He gets angry only once, when he and the tycoon Kirby clash over our responsibilities to others.

Seinfeld is a signpost in our evolving attitudes toward adult responsibilities. Youth, maturity, and senescence once formed the natural arc of life. No one wants to get old, but the inevitability of aging can give structure and focus to our life. Maturity means recognizing limits; adulthood requires that one forsake the infinite potential of youth. Focusing on a goal, even one never achieved, marks our life as finite, for it means giving up on other schemes. In comparison, the characters in *Seinfeld* are committed to a kind of social neoteny, the retention of juvenile features in an adult. Like our friends the transhumanists, their sense of responsibility is libertarian: we each do (or invent) as we like, leaving others to respond as they will.

Across the 20th and now into the 21st century, culture has advanced by expanding the rights of and opportunities for women. In part, this has occurred through a growing awareness of the toxic elements of masculinity, a reckoning that was long overdue. The tradition of the paterfamilias has mostly passed away, and we've experimented with new senses of masculinity, although it is uncertain whether we have yet hit upon healthy ones. The 1970s saw the rise of a hyper-aggressive masculinity of the *Dirty Harry* and *Rambo* franchises. We've also witnessed the rise

of a male culture of perpetual adolescence, as daring has become a substitute for sagacity.[1] Video game culture and online message boards like Reddit encourage trolling. The tech culture of Silicon Valley reenacts the cutthroat capitalism of an earlier age, but with an adolescent spin. The resulting information revolution enables the tracking of individual habits at unprecedented levels of detail, creating the prospect of the mass manipulation of political and economic behavior.

The speed of change has left many feeling unsettled. In *The Left Behind* (2018), sociologist Robert Wuthnow describes the results of eight years spent interviewing rural Americans about politics and culture. He found "a general fear that traditional moral rules were being wiped out by a government and a culture that doesn't understand the people who still believe in these things." Washington is blamed for forcing cultural changes concerning homosexuality and sexual identity, and for pushing environmental regulations that overburden municipalities and weaken traditionally male jobs in fields like the extractive industries.

On Wuthnow's reading, this is mostly a case of scapegoating. State and federal governments are responding to and codifying rather than driving the changes occurring in culture. Cultural changes are triggered by a familiar list of drivers—technological innovation, globalization, and market forces. Wuthnow sees rural anger as rooted in cultural resentment and reactionary racism, as well as in the steady destruction of a slower, more conservative way of life.

I do not so much disagree with Wuthnow as I want to provide an archeology of his claims. I do so via a theory of the media technology, where changes in these technologies are a decisive factor in driving cultural change. Racism is a persistent fact in American life, and Washington can be an implacable overseer. But the disarray of traditional moral practices is not primarily a matter of government overreach. Nor can these changes, whether they be viewed as good or bad, be adequately explained by reference to immigration or the depredations of capitalism.

Less visible forces are at work. The irony is that people hold the source of disruption in their hand. I mean, of course, the multipurpose gadget that we anachronistically call a cell phone. But the cell phone is merely the most prominent example of technologically driven change. Innovations sets in motion new practices and new desires—with the practices often preceding and creating the desires. Then another spasm of innovation comes along, changing our cultural topography again. Washington and Hollywood are seen as the culprits of cultural dislocation, and they certainly play a role, but their actions are usually reactions to forces generated by another one of our iconic locations: Silicon Valley.

Silicon Valley functions here as metaphor. But it is also a leading promoter of the attitude that I'm highlighting. And of course, it's not only boys who run the place: Sheryl Sandberg (Facebook) and Marissa Mayer (Yahoo!) play prominent roles in the Valley. The heedlessness,

however, is stereotypically male. A recklessness that is relatively harmless in a 15-year-old boy becomes consequential in the hands of techno-elites. Facebook has advertised its ethic of "bringing the world closer together," and Mark Zuckerberg dismissed as a "crazy idea" the suggestion that Facebook posts influenced the 2016 presidential election. Yet by the fall of 2018 it was known that a single fake story—that Pope Francis endorsed Mr. Trump—was seen by millions of Facebook users, and that in the run-up to the election some 125 million Americans saw posts created by Russian hackers and bots.

Youthfulness of spirit and a willing to experiment can be charming in an adult. But playfulness is different from heedlessness. Given the power of their technologies, the aging boys of Silicon Valley should be mindful; but accounts of their behavior—for instance, Antonio Martinez's *Chaos Monkeys* (2014) and the 2018 *New York Times* blockbuster report on Facebook—suggest the opposite. Steven Pinker promotes the idea that by any number of societal indices, things have never been better. For instance, in the 30 years after 1982, extreme poverty dropped worldwide from 42% to 11%. It's chimerical, however, to think that it's possible to devise numbers for fundamentally philosophical questions. What weight do you give to various indices? And in any case, how relevant are past trends to future conditions, when technology constantly changes the rules of the game? Some of our technologies are likely to go awry, and given their power, the effects will be profound. Nonetheless, the message from Silicon Valley and the transhumanists is to go faster.

In 1790, at the time of the creation of the US Constitution, the US population was fewer than four million. In 1890, the population was 16 times greater, totaling 63 million. The challenge of cultural cohesion increased along with the growth of population and territory. There is a limited number of ways that a large society holds itself together: it can be content with being only loosely connected; it can rely on authoritarian means, such as billeting soldiers throughout a territory; or it can be brought together via the mediation of ideological structures like language, religion, or a political ideology. In 1890 the United States was rapidly urbanizing, having left behind Jefferson's dream of an agrarian republic. Small-town mores were giving way to the anonymity of big-city life; traditional moral codes and community oversight were being lost. Religion still played a powerful role across culture, but it too was showing strain, the result of tensions tied to immigration as well as the cultural effects of the theory of natural selection.

Under these conditions, the role of the media became crucial. At the end of the 19th century, cultural norms were transmitted through a variety of sources—newspapers, the telegraph, books, lecture circuits, and clergy at the pulpit. All of these could be quite powerful: from an earlier generation, the effects of *Uncle Tom's Cabin* (1852) is the classic example. But each of these sources had their limitations and inefficiencies.

Newspapers, for instance, were then largely a local product, and books demanded focused attention and a high degree of literacy.

Technological development was about to create a new means for a common set of cultural experiences. In 1895, the Lumière brothers showed the first short films in Paris. By 1907, houses dedicated to motion pictures had opened throughout the United States and Europe. Their effects were unprecedented: film eliminated the barrier of literacy—everyone could make sense of images—and film had a raw immediacy and emotional power that books rarely achieve. The world film industry was soon dominated by American cinema—based first in New York, then in Jacksonville, and finally in Hollywood. Commercial radio, the other major media invention of the early 20th century, developed two decades later, but it also had powerful effects. The first commercial station started in Detroit in 1920, and the format spread rapidly: by 1922, there were more than 600 radio stations nationwide. By 1930, 60% of Americans owned a radio. Together, film and radio knit together a rapidly expanding nation.

This chapter returns to what I've called the Kaczynski thesis: that at the most fundamental level, responsibility for cultural change lies with scientists and engineers. A technoscientific invention, the medium of film, offered a powerful means for unifying national culture. This made the golden age of Hollywood possible, until further developments in media technology contributed to the disintegration of both Hollywood and a common national culture. Both ends of this process exemplify McLuhan's adage that the medium is the message: the shift to film, and then from film to TV and other forms of video, to eventually social media on the internet, has profoundly shaped our sentiments and presentiments, our intuitions and unconscious habits. These changes in our intuitions have helped make transhumanist ambitions the logical outcome of our desires.

I turn, then, to an account of the leading form of cultural production in the first half of the 20th century, Hollywood film. But before doing so, there are two other matters to consider: an account of the limitations of argument, and a brief sketch of the presidency of Jimmy Carter, who stood at the juncture of two different national sensibilities.

2

Philosophers are in the business of making arguments. But everyone who makes arguments, philosopher or not, faces a challenge: the more fundamental the issue, the harder it is to get people to listen. Take transhumanism. Lengthen one's life? Delay aging? Restore lost abilities, or gain new ones? These are not matters that people merely have a set of opinions about. Pro or con, the propositions they defend are rooted in basic hopes and fears. After all, people are scared of dying.

Even on a more theoretical level, transhumanism doesn't simply involve technologies to be evaluated in terms of a simple cost-benefit analysis. The transhumanist impulse is the culmination of the 400-year philosophic project of modernity. The modern project changed our culture's intuitions about a wide range of issues seemingly quite distant from science—the nature of the self, the relation of the individual to their community, the character of freedom, the status of religion, and the meaning of the natural world. To offer a critique of transhumanism implies that at some level you are taking on all of these issues in addition to the intuitive roots of people's hopes and fears.

This suggests that to simply tackle such arguments head on won't get us very far. In making arguments we need to think about the efficacy of argumentation itself. It's a point that Plato appreciated; it makes up the theme of Book I of the *Republic*. As the book opens, Socrates is concerned with identifying the nature of justice. But he is first challenged by non-argumentative approaches to the question, by those who decide matters through violence (represented by the slave boy), religion (Cephalus), tradition (Polemarchus), or self-interest (Thrasymachus). By the end of Book I, Socrates has beat back these challenges, clearing the way for reason to be in command across the rest of the dialogue. But these other modes of life never entirely go away, as is made clear by the periodic playful references to Socrates being held captive by his interlocutors.

The point remains evergreen: arguments exist within a psychic and social ecosystem that affects their usefulness. The best arguments take this into account. Philosophers often imagine themselves as operating within ideal speech conditions where the only issue is the cogency of one's argument. But they are able to hold on to such a notion only by sticking to "academic" concerns. In the real world, arguments have difficulty carrying the day. That's why Hegel noted that "The owl of Minerva spreads its wings only with the falling of the dusk": arguments are better at diagnosing a situation than changing people's minds.

Across the 20th and now the 21st century, philosophy has been dominated by logocentric approaches to questions. But in addition to seeking argumentative rigor, philosophy can also reach down into the rhetorical and metaphorical sources of argument. Plato exemplifies this in his periodic turn to metaphor and myth, in the divided line and the allegory of the cave, and in the myths of Theuth and Ur. These are places where logic gives way to more figurative accounts. In *Beyond Good and Evil*, Nietzsche extends this point to philosophers:

> Most of the conscious thinking of a philosopher is secretly guided and forced into certain channels by his instincts. Behind all logic and its seeming sovereignty of movement, too, there stand valuations or, more clearly, physiological demands for the preservation of a certain type of life.

Freud and Foucault explore this terrain, too, in their investigations into the psychology and the archeology of knowledge, plumbing the premonitions and prejudgments that make up the elements of our thinking.

Chapter 2 raised questions concerning the role of *Stimmung* or our intuitive attunements in creating a Zeitgeist. This chapter offers a phenomenological and sociological sketch of a mental posture that has given birth to both stunning technological advance and to elements of cultural regression. This mental posture deserves a name: Silicon Valley exemplifies, and promulgates throughout culture, a high-tech version of bro culture. By "bro culture" I mean a habitual pattern of macho behavior as well as darker elements such as binge drinking, sexism, and rape. Our culture encourages the habitual behavior of 15-year-old boys as a model for all ages and genders. It's a form of arrested development where the concept of maturity is abandoned. Technological advance becomes a substitute for discipline, and speed for care and depth. This behavior is now epitomized by aging boys (and sometimes girls; see Frenkel et al. 2018) who should know better, who spend their lives making toys and money with little regard for consequences. Silicon Valley offers the leading example of this process, but it merely exemplifies habits that have come to dominate our culture.

The shift toward immaturity has been encouraged by new types of artistic output—meant in the wide sense, including performance artists like the IRL streamers mentioned in Chapter 1—that have been made possible by new technologies of communication such as the video-equipped cell phone. Radically individualized broadcast technology has made social control of the productions nearly impossible, providing new means to the uniquely powerful role of art to motivate social change. It also made the very idea of a norm difficult to hold on to.

The tradition of modern aesthetics, from the 18th century through today, treats art as a subjective experience. Art is something inward and personal, rooted in the individual's intense aesthetic experience of an object. Art can certainly be experienced in this way, but focusing on this ignores the social effects of art. Heidegger breaks with the modern tradition of aesthetics by arguing that art is the place where truth is revealed. Rather than opposing aesthetics to epistemology, he sees art as the fulfillment of epistemology, or better said, metaphysics. An artwork works when a truth goes from something obscure and poorly understood to being deeply realized.

Heidegger describes art as being essentially poetic in nature: in Greek, *poiêsis* means a "bringing of something into being." It doesn't designate a discrete subsection of human experience that prompts personal enjoyment. Rather, the work of a work of art consists in bringing a truth into the light of day. By doing so art changes us and moves us to action. As Rilke notes at the end of "Archaic Torso of Apollo," when you understand the meaning and implications of art, the world becomes a different

place; in Rilke's words, "you must change your life." This doesn't require that what's revealed be something praiseworthy; aesthetics isn't ethics. The truths revealed by high-tech bro culture can be exciting and stimulating, but are also at times dangerous and destructive to what is best in us. But they are truths nonetheless.

On Heidegger's reading, art rests at the center of public life. What's at stake in artistic production is nothing less than a culture's sense of the real. Therefore, in diagnosing our own time, I will turn with the dominant American cultural production of the mid-20th century. Classic Hollywood film and the Hays Code are essential for understanding the shaping of mid-century America norms. These norms eventually eroded through the dissolving effects of additional technological advance. Of course there are a number of positive elements in these shifts, not least in the improved treatment of women, minorities, and those of differing sexual orientations. But rather than a common conversation about the devising of a better set of norms, our culture has increasingly trended toward acquiescing to the breakdown of all norms. It's a mentality that has abetted the rise of transhumanism.

3

In 1973, US support for Israel in the Yom Kippur War led to the OPEC (Organization of the Petroleum Exporting Countries) oil embargo. The resulting energy crisis affected industrial production and political stability across the globe. In the United States, it led to price controls and rationing, as well as to the brief consideration, by the US military, of a takeover of the Middle East oil fields. By February of 1974, one-fifth of American gas stations had no fuel to sell.

For a certain age cohort, the energy crisis of the 1970s awakened memories of World War II. The war years had been a time of common sacrifice: sugar and gas rationing, war bonds and Victory gardens and a national speed limit of 35 mph. Sixteen million Americans served in the war out of a population of 135 million; more than 400,000 Americans died. Although he just missed the war, Jimmy Carter was a member of this cohort, graduating from the US Naval Academy in 1946. After serving on nuclear submarines, and working in the peanut business, in 1962 Carter ran for state senate in Georgia as an anti-segregationist, winning election. He ran for governor in 1970, winning again. In 1976 he ran for president, and despite the fact that he began as a relative unknown, he won.

Taking office in January of 1977, the energy crisis was the most pressing issue Carter faced. In response, Carter gave a series of speeches focusing on energy, the first coming a mere two weeks after his inauguration. He delivered two additional speeches on energy later that year. The February talk was notable for his wearing a sweater rather than normal business

attire, as he encouraged Americans to conserve energy by turning down their thermostats and dressing more warmly. In April of 1977 Carter addressed the nation again, in what has come down to us as the "Moral Equivalent of War" speech. His tone was bracing. The speech began:

> Tonight I want to have an unpleasant talk with you . . . We must not be selfish or timid . . . Many of these proposals will be unpopular. Some will cause you to put up with inconveniences and to make sacrifices.

Carter listed the ten principles of his proposed national energy policy. Halfway through the list he made his core point: "The sixth principle, and the cornerstone of our policy, is to reduce demand through conservation." This would have personal costs: "It will demand that we make sacrifices and changes in every life. To some degree, the sacrifices will be painful—but so is any meaningful sacrifice."

In July of 1979, Carter returned to these themes, giving what has been called the riskiest speech of his presidency. It has become known as the "malaise" speech, although he did not use that term. Rather, the speech was titled "Crisis of Confidence." The challenge facing America was framed as being moral and spiritual rather than technological in nature: "Too many of us now tend to worship self-indulgence and consumption. Human identity is no longer defined by what one does, but by what one owns." Carter was an engineer, with graduate training in nuclear physics and reactor technology. Nonetheless, he framed the challenge facing the nation as primarily one of character rather than engineering.

The speech has come down to us as an example of the fecklessness of the Carter administration as well as evidence of the pointlessness of making appeals based upon moral suasion or an Aristotelian sense of virtue. But as Kevin Mattson (2009) notes, initial reaction to this speech was quite good: the White House was inundated by positive phone calls, and Carter's approval numbers went up 11 points. Views of the speech only shifted two days later, when Carter fired several members of his cabinet. Nonetheless, the received wisdom is that the public saw Carter as weak and functioning as the national scold. Similarly, the "Moral Equivalent of War" speech came to be known by the unfortunate acronym of MEOW.

The speeches and their aftermath represent a watershed moment in American society, part of a shift in public rhetoric and cultural norms that's occurred over the last three generations. Carter now appears as a transitional figure, caught in the shift between the culture he grew up in and changing social, political, and sexual norms. In business, this shift is marked by the end of the grand bargain struck in the Depression, when corporate elites acknowledged that social stability required placing limits on avarice. The obligations of business needed to extend beyond stockholders to include the interests of both employees and the

larger community. But by the 1980s this view was falling by the wayside. In politics, this change is marked by the shift in attitudes toward government, particularly within the Republican Party. "Conservative" went from meaning someone who took a more limited approach to the role of government to the view summarized by Grover Norquist: "Our goal is to shrink government to the size where we can drown it in a bathtub." No longer the repository of our common interests, government was now a menacing force to be minimized in order to leave more room for the play of individual interests and the accumulation of private wealth.

But the most telling examples of this transformation come from the realm of culture. The counterculture of the 1960s is the obvious dividing line, marking the breakdown in the post–World War II consensus, as the moral standing of elites was repudiated over a whole constellation of issues—the Vietnam War, civil rights, women's rights, and the despoliation of nature. A national consensus has still not reemerged. Instead, in terms of politics, we've witnessed the great sorting, so that today red team and blue team represent different tribal cultures. Technological change is recognized as contributing to this crack-up—to pick one element, the nightly delivery of the Vietnam War into American homes via TV profoundly undermined the war effort. But these historical commonplaces obscure the larger, centrifugal effects of media technology, which drove a shift in both the tone and the content of the stories our culture told itself. Overwhelmingly, these new technologies of culture have been technologies of individuation, which have encouraged an aggressive libertarianism. This breakdown of older cultural norms, visible across the whole of society, was given impetus by the rise of individualized forms of entertainment.

Of all the stories we tell ourselves, the one concerning the role of the arts and the humanities in society is perhaps the most self-deceptive. We describe these fields as frivolous while emphasizing the practicality of science and technology and business. But scientists and technologists are themselves guided by narratives that are humanistic in nature. These narratives are so deeply embedded in our collective consciousness that we take them as statements of literal truth rather than as the metaphors we live by. The same holds true for business: in this age of abundance, even the necessities of life contain aesthetic elements woven into the fabric of their construction. The arts and humanities find themselves in the odd position of being dismissed as impractical even as these fields create the tones, images, and ideals that motivate our habits, purchases, and politics. Perhaps we should have listened more closely when Steve Jobs told us that the most practical class he took at Reed College was calligraphy.

I am making two points here. First, cultural productions are the hidden wellsprings of both business and politics. Our lives are lived according to narratives, not facts. Second, advances in media technology have decisively changed the character of our cultural productions, encouraging

increasingly aggressive, disruptive, and libertarian social attitudes. It's one of life's ironies that the rise of bro culture occurred at the same time that society was becoming more sensitive to issues tied to discrimination against women. Or perhaps not, for the pathologies of Silicon Valley and our culture may be one of the results of the necessary overturning of traditional gender roles.

4

Today it's hard to imagine the dominant role that Hollywood once played in American life. For the Greatest Generation, Hollywood cinema had unprecedented influence: in 1942, 85 million Americans—two-thirds of the population—went to movie houses *every week* (Figure 4.1). This dominance was soon to end, and the cause was a matter of technology. In 1947, 0.5% of American households owned a television. By 1952 the number was 34%, and by 1960, 87% (Library of Congress data). This began the transition toward individualized, in-home entertainment that continues to this day. But before this, in the 40 years preceding *Rebel Without a Cause* (1955), the seven Hollywood majors—MGM, Paramount, Fox, Universal, Warner Brothers, RKO, and Columbia—were the principal purveyors of cultural production within US (and to a large extent, Western) culture.

Hollywood dominated cultural production. This was not without pushback: actor's behavior both on and off the screen brought threats of boycotts from religious, civic, and political organizations. Some of this resistance was in reaction to depictions of libertine behavior, but much of it was rooted in a kind of localism that resisted the nationalizing of American culture. Jefferson's agrarian dream may have been dead, but much of the nation still lived in relative isolation. Small towns and cities and disparate regions of the country often experienced Hollywood film as a form of cultural invasion.

Threats to censor film came from a wide range of sources. In addition to the possibility of federal legislation, Hollywood had to contend with state boards, more than 250 city and town boards, as well as Catholic bishops and myriad local ministers who fulminated from their pulpits. The problem for Hollywood was not simply the threat of censorship; it was also the matter of *differential* censorship—between city and country, north and south, and wet and dry. Each of these sources could demand different cuts to a film. From a business point of view, it was a nightmare.

A series of scandals exacerbated problems. The most notorious of these occurred in 1921, in the rape trial of Roscoe "Fatty" Arbuckle, a comedy star then second in popularity only to Charlie Chaplin. Something had to be done, and to head off threats of direct government control of the film industry, in 1922 Hollywood created the Hays Office. Its goal was to

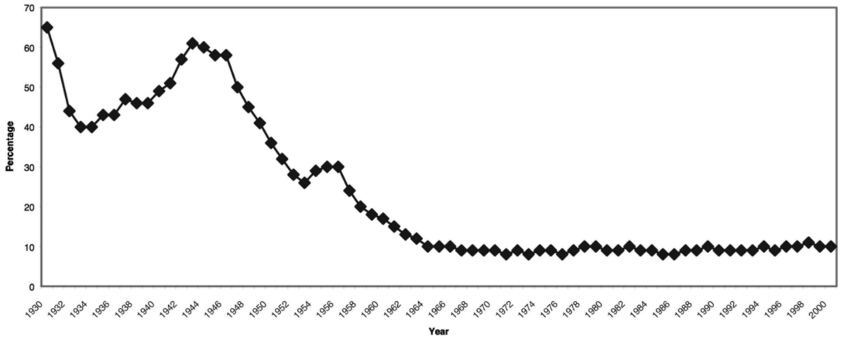

Figure 4.1 Percentage of the US Population that Went to the Cinema on Average Weekly

Source: Paltz (2002).

convince the public that the industry was a beneficial presence in American life. Led by former Postmaster General Will Hays, the office had a dual mandate: part editor and censor, part manager of public relations. Film historian Stephen Vaughn (2005) highlights the role of seeking to both uphold Judeo-Christian standards while also promoting

> the "absolutely limitless" power of movies to influence national life, public taste and conduct, and the dreams of the young—indeed, no more potent means existed "to influence the thought of the nation towards common ideals."
>
> (p. 125)

Hays' political efforts were prodigious: to counteract protests from organizations like the Catholic League of Decency, he created "genuine motion picture councils" composed of local leaders who would promote what they thought to be good films.[2] By the early 1930s, Hays' public relations department estimated that they had the support of some 100,000 volunteers nationwide. This flood of support helped them to block legislative attempts to create a state or federal motion picture commission.

A massive public relations effort was necessary, for movies brought distant, sometimes foreign mores into local life. In the late 1920s, the invention of talkies increased the sense of assault. Talkies introduced a volatile new element into film: language possessed endless possibilities for innuendo and double entendre. A renewed outcry prompted the Studio Relations Committee, created in 1926, to declare its intention to increase its oversight of films. But the Committee remained merely advisory in nature. Over time, pre-Code films became more daring. The

Committee presented little impediment to the creation of films like *Safe in Hell* (1931) and *Baby Face* (1933), whose stories involved a prostitute and a young woman who sleeps her way to the top.

With talk of boycotts again rising, and facing the possibility of control from Washington as part of New Deal regulations, in July of 1934 the Hays Office finally cracked down on the content of motion pictures. In an effort now led by the Jesuit-educated Joseph Breen, the Hays Office would review every movie script before filming commenced. The Production Code Administration (PCA) enforced a set of "Don'ts" and "Be Carefuls" that restricted profanity, nudity, illegal drugs, miscegenation, sexual perversion, and the ridicule of authorities. For instance, kisses were not to last for more than three seconds. This prompted an ongoing game of cat and mouse, as artful directors sought ways to circumvent the rules: for instance, in Hitchcock's *Notorious* (1946), Cary Grant and Ingrid Bergmann take a series of momentary breaks before returning to the clinches.

Every Hollywood movie was required to have the PCA certification on its title frame. Restrictions could be inane: "The treatment of bedrooms must be governed by good taste and delicacy," leading to the requirement that married couples be shown with separate beds. But such restraints, and the list of Don'ts and Be Carefuls, were also rooted in a more elaborate philosophical justification. In the late 1920s, the original version of the Code had been co-authored by Daniel Lord, SJ. As a young seminarian, Lord had improvised musical accompaniment for silent movies and had worked with DeMille on *The King of Kings* (1927). The Code sought to represent the common ideals of culture while promoting an aspirational ethos of moral instruction. Lord's Thomist-inspired account identified as its general principle:

> No picture shall be produced which will lower the moral standards of those who see it. Hence the sympathy of the audience shall never be thrown on to the side of crime, wrongdoing, evil or sin.
>
> (Doherty 2007, p. 84)

It was Breen's job to implement the Code across the hundreds of scripts his office would see each year, in the hope that self-regulation by the motion picture industry would preclude government censorship. The distinction is crucial: while imposing moral standards, Breen's goal was to get pictures *made*, with as much realism and art as possible. Consisting exclusively of college-educated white men, including one college professor, Breen's staff sought to steer a middle course: adult themes were allowed, but would be governed by a sense of decorum. Thus "brutal killings are not to be presented in detail." It was a powerful role: in 1936, *Liberty* magazine declared that Breen "probably had more influence in standardizing world thinking than Mussolini, Hitler, or Stalin. And if we

should accept valuation of this man's own business, possibly more than the Pope" (Doherty 2007, p. 7).

This was a curious comparison even in 1936. Such standardization should raise concerns—and whether "standardization" is another word for repression, or for that matter, propaganda. The culture that Lord embedded in the Code had pretentions to being universal, but its universality was tied to values that were to one or another degree or another white, male, heterosexual, and Anglo-Saxon in nature. Since then new voices and perspectives have been added to the cultural conversation, a process that is ongoing. The question is whether it is possible to include new voices within a code without destroying it. It's the problem of pluralism, whether any attempt to create a code will be destroyed by cultural diversity. I will claim in the next chapter that it is possible to preserve something like the Code, based in shared modes of conduct and common tones that the vast majority of people can support.

Breen's efforts were also supported by the latest social theory. Between 1929 and 1933 a group of social scientists funded by the Payne Fund undertook research on the effects of movies upon young people. The result was *Our Movie Made Children* (1933). Claiming that "only the Bible and the Koran have an indisputably larger circulation than that of the latest film from Los Angeles," researchers argued that desire was mimetic, especially for youth. While dubious behavior could be portrayed, in the end an example should be set by the punishment of vice. Enlisting the help of theological and philosophical heavyweights, including the philosopher Mortimer Adler, for deliberations on and defenses of the Code, movie themes—at least the ones that were about something more than innocuous song and dance or comedy—were to embody ideals of moral education or *Bildung*.

Given the dominance of film as cultural entertainment, it was a message that resonated across society. Consider a sampling of leading films from the height of the Production Code. In *Dark Victory* (1939) a young, wealthy socialite (Bette Davis) is having headaches. She visits a doctor, and it's discovered that there is a "growth" (a brain tumor—it wasn't possible to use the "C" word). The doctor operates, but the case is terminal. She has months to live. The woman responds by indulging in (discreetly indicated) licentious behavior. The physician eventually finds her, and in response to her bitter outbursts he tells her:

> We all have to die. The tragic difference is that you know when and we don't. The important thing is the same for all of us—to live our lives so that we can meet death whenever it comes beautifully, finely.

Chastened, she vows to reform. The two marry, and physician starts his own lab in Vermont to find a cure for "abnormal cell growth" (alas, no NIH grants are yet available). The couple live a simple life in the country

until the end comes. Watching it today, the artlessness of the portrayal, the consistent high-mindedness, and the lack of a knowing wink or gentle tone of ridicule are striking.

Watch on the Rhine (1943) offers a similar ethos. Just before Pearl Harbor, Kurt Muller (Paul Lukas) is a German who has devoted his life to fighting fascism. Injured and ill from his efforts, he, his wife (Davis again), and their three children come to America and to Davis' mother's house in suburban Washington to recuperate. Unknown to the mother, however, the house has been harboring a Nazi sympathizer from Europe. He discovers who Muller is, and threatens to reveal his identity to the German embassy unless he is paid a ransom. But no: that money must go to Europe to support the resistance. And so Muller kills him—off-screen, with the audience only hearing a single shot.

It's a remarkable moment in Hollywood cinema. The Production Code required that if a character killed someone in an extralegal fashion, that character also had to die, or at the minimum go to prison. The Hays Office initially refused to allow the scene, but after appeals by the studio—and given that they were talking about a *Nazi*—Muller gives an anguished speech explaining why he was forced to act as he did. He then leaves for Germany (and almost certain death) to continue the fight against the fascists.

These films weren't Pollyannaish. Characters were flawed and institutions corrupt. But there is a moral seriousness at work across the whole of them, combined with a tutelary presence of virtue that ruled over the proceedings. Frank Capra's *Mr. Smith Goes to Washington* (1939) is unstinting in its rendering of a corrupt Washington political establishment. It gives nothing away in cynicism as compared to *All the President's Men* (1976). But in *President's Men*, the corruption goes all the way to the top. It's overcome largely through the individual efforts of the two reporters (plus their editor). In *Mr. Smith*, Jimmy Stewart also plays the role of the lone crusader. But the success of his efforts is dependent on the intercession of a presiding presence: at crucial moments, the president of the Senate (Harry Carey) puts his thumb on the scale in support of the moral order.

It's this tutelary presence of moral order that's been lost. In the 1940s, Hollywood produced some 300 movies a year—double today's production, as Hollywood has become an increasingly marginal player in an age of streaming video. Many of the movies from the golden age were gangster movies or films noir like *Double Indemnity* (1944) which depict sadistic behavior. There were also truly odd films, like *The Lady From Shanghai* (1947), containing elements of sexual transgression and deep moral ambiguity. The point of the Code, however, was not to eliminate moral ambiguity but to frame it within a larger, edifying context. As a result, even with the crucial deficiencies of sexism, racism, and other

moral failings characteristic of the era, classic Hollywood cinema presupposed a moral universe and a common set of moral norms.

The Code did shift over time. The realities of World War II forced the Hays Office to loosen its standards in order to not appear hopelessly prissy. But the essential tonal message remained. *The Big Sleep* (1946) addresses themes of sex, drugs, murder, gambling, and pornography—a prelate's nightmare. But the violence is more indicated than visceral, the sex and drugs more hinted at than explicit. Moreover, the action remains within a moral frame. The realities of life are acknowledged, but they are encapsulated within Philip Marlowe's (Humphrey Bogart's) ethical worldview.

The Production Code began to break down in the 1950s under the influence of television and other factors, including a crucial legal decision. *United States v. Paramount Pictures* was a 1947 Supreme Court case that challenged the vertical integration of the film industry. At this time the major film studios owned many of the movie houses that showed their films. The *Paramount* decision forced studios to sell off their theaters, which meant that independent studios could now create films with greater assurance that they could be marketed. Through *Paramount*, the disruptive influence of television, and shifting social mores in the aftermath of the war, enforcement of the Code became steadily more difficult.

By the mid-1960s the Code was a dead letter. In 1968, it was replaced by a version of the current ratings system of G, M (later PG), R, and X (now NC-17). The 1960s also saw the rise of the anti-hero (e.g., *Hud*, 1963), who challenged the very idea of an authentic moral order. The anti-hero was morally dubious, but he still possessed a moral status by calling attention to the hypocrisies of society. In this way films retained a moral framing: while Hud is not punished in the end, director Martin Ritt leaves little doubt concerning the view the movie takes toward the title character.

In subsequent years this moral framing was increasingly abandoned. *The Wild Bunch* (1969) is the classic example, but *High Plains Drifter* (1973) is more telling. The lead character (Clint Eastwood, known only as the Stranger) explodes the traditional moral order of the Western as represented in, for example, *Stagecoach* (1939) and *Shane* (1952). The Stranger engages in a series of atrocities, including the rape of a woman. The moral universe that once encompassed films gives way to the features that have come to distinguish Hollywood movies and video of all types (e.g., *Breaking Bad*): the absence of moral verities, cynicism about societal institutions, and the fetishizing of the power of the individual through guns and violence.[3]

This individual offered a new type of moral framing—the lone individual empowered to break the law because the authorities are corrupt. Whether in the form of Dirty Harry (Eastwood again), Rambo (Stallone),

or John McClane (Bruce Willis), the message conveyed was that institutions are venal, and righteousness is only to be found in the angry, assertive individual who takes matters into his (it is almost always a man) own hands. Embraced by the Republican Party and instantiated in the political persona of Ronald Reagan, the figure of Rambo became a dominant masculine motif. George W. Bush's compassionate conservatism notwithstanding, Republicans from Newt Gingrich to Rush Limbaugh to the Tea Party to Donald Trump (with the more recent help by Ann Coulter and Laura Ingraham) have helped to make these views central to our culture.

Hollywood is notorious for being a liberal enclave. This assumption is true enough if one focuses on campaign contributions and voting patterns. But the overall message from Hollywood over the last 40 years has been deeply conservative in the post-Reagan sense of the term, promulgating a view of the world that is suspicious of authority, disdainful of community norms, aggressive in its individualism, and voyeuristic in its pleasures. Simple expressions of sincerity and integrity, or faith in the power of government to right social wrongs, have fallen out of style. Of course, films embodying this outlook can still be found, but the language of artless nobility, where one's purpose is tied to something greater than oneself, serving institutions that were worthy of our trust and loyalty, no longer characterizes either our cultural productions or our cultural life. The ready response to this is that our institutions have demonstrated that they are undeserving of our trust. This is true enough. But this has probably always been true. A cynical response to this fact diminishes our common lives.

5

Let's be clear about what changed since the demise of the Code. In *No Country for Old Men* (2007), Tom Bell (Tommy Lee Jones) is a Texas lawman close to retirement. The film begins with him describing how law enforcement is different from his grandfather's time. Bell depicts a world that's not only lost its moral compass; it's also lost its rationality. Crime now often consists of random acts of violence. Theft usually involves a cost-benefit analysis, and even crimes of passion speak to the sovereignty of reason temporally abandoned. Increasingly, however, the cases that Bell sees consist of extreme and indiscriminate slaughter, a world descended into chaos.

These points are then illustrated by the unfolding story. A drifter (Javier Bardem) kills without purpose, remorse, or even discernable pleasure. In one scene, he visits a small store, and demands that the man behind the counter "call it"—pick heads or tails on the flip of a coin. The man has no idea what is going on, but senses menace; the viewer knows that if the storekeeper picks incorrectly he will be murdered. At the end of the

movie, Bardem again asks a woman to "call it," but she, knowing what is at stake, refuses to participate in his madness, and is killed.

The film's directors, Ethan and Joel Coen, offer a portrait of a culture in dissolution. The film offers no explanation for how we've come to this point, nor a suggestion for how we might move toward a greater sense of morality and purpose. There is no sense that there will be a happy ending (there isn't) or just deserts (there is no moral message). What's more, the Coen brothers seem oblivious to their own contribution to the problem that they depict. The film highlights the increasingly chaotic nature of our moral universe; but it then exacerbates this chaos through the gratuitous depiction of bloodshed. Once, when bad guys were shot, they fell to the ground clutching their chest with a spot of blood. Now we are treated to blood and viscera up close, the point of which seems to be the celebration of its spectacular nature.

There is a moral justification offered for these practices: the ethics of realism. It's said that the old films hid from reality. The world should be shown as it really is, violence and injustice in all their ugliness and depravity. It's a persuasive point—or at least it was once. Now the point has been made over and over again. We've all seen our share of ugliness; the gesture has lost its meaning, and instead has become an occasion for voyeurism. It's not the themes that are the problem; many movies today raise issues that contain an important moral message. Take *Three Billboards Outside Ebbing, Missouri* (2017): the movie offers timely commentary on a number of social ills. But the film also shows a character in graphic close-up using a dental drill to pierce someone's thumbnail, another character shooting himself in the head, the firebombing of a police station, and a policeman who viciously assaults an innocent man who is then thrown out a second-floor window.

These examples come from Hollywood film, but the point applies to all the forms of contemporary video—television, YouTube channels, Netflix and HBO, even children's video games. These cultural productions portray a degree of violence and crudity of tone that prompts the very attitudes and behavior that they supposedly decry. This attitude has radiated out from our cultural productions and become commonplace across culture. We are treated to wall-to-wall coverage of mass shootings, which then prompts more shootings. In politics, the constitutive role of courtesy was once understood: one's dislike of a political opponent made it all the more crucial to observe polite forms of address. No more. This evolution has also contributed to the election of a president: television networks provided candidate Trump with thousands of hours of free media time, lured by the entertainingly vulgar nature of his campaign rallies, broadcasting a degree of deception and rancor that once would have been unthinkable.

The Hays Code's assumptions were platonic in nature. In Book III of the *Republic*, Socrates argued that storytelling should be limited by

ethical considerations, especially for youth. The Hays Office recapitulated this view, but also recognized the reciprocal nature of the relationship between ethics and aesthetics, applying the Code with flexibility, and allowing for artistic license, in cases such as *The Big Sleep* and *Watch on the Rhine*. This too was consistent with Plato's views—at least if you read the banishment of the poets in Book X as Plato's own *reductio ad absurdum* of censorship carried too far. Art must be able to make its own demands on ethics, for otherwise the *Republic* is advocating the position that Plato himself should be banished from his ideal city.

There's a lot of posturing around the question of censorship: by defending censorship one is liable to be painted in fascistic tones, even though it is obvious that everyone is in favor of censorship to one degree or another. There were problems with the Code, and reasonable objections to be made to its strictures. What's more, its abandonment has led to artistic triumphs that never would have been allowed (out of a wealth of examples, take *Chinatown* [1974] and *The Hurt Locker* [2008]). But the moment when extreme violence is necessary for our instruction has largely passed. Violent and vulgar portrayals now typically substitute for artistic achievement.

People will disagree about the moral implications of the violence in contemporary movies. But my central point is this: the demise of the Code was driven not by debates over its aesthetic or ethical merits. Rather, it was killed off by technological innovation, the rise of new media that shattered the ability to enforce moral standards in the depiction of art. In a race to the bottom, these new forms of media encouraged aggressive, disruptive, and libertarian social attitudes. More to the point, they shattered the very possibility of cultural norms.

6

People mean a variety of things by the phrase "technological determinism." On the analogy with Marxism, it is sometimes understood as technology determining the development of political, economic, and social structures. Or it can denote the belief that technological development has a momentum of its own and cannot be halted. But I want to point out another dimension: the ways in which technological innovations now preempt social decision-making.

Take the case of pornography. It has always had a presence in American culture, just as in every culture. But until recently it existed on the margins. To gain access to pornography, one had to travel to a limited number of places located in particular parts of town. Now made ubiquitous by the internet, its availability has reverse engineered our cultural standards concerning its appropriateness and changed our sexual behavior as well. These changes have been driven by a simple fact: the internet

has made pornography easily accessible in the privacy of one's home, and thus impossible to regulate. The point isn't whether these changes are good or bad—I am happy to defend the right to view pornography, even if the prevalent forms it takes today are degraded and disrespectful to women. My concern is with the fact that social mores are being determined by technological innovation rather than by society itself.

The pattern repeats itself across culture. Take the case of academic plagiarism. The ease of committing plagiarism via the endless possibilities to cut and paste material from the internet has upended teaching patterns. I gave up on assigning take-home papers long ago—after trying various countermeasures like www.turnitin.com—frustrated by the Catch-22 where one's best students were often the ones who were most likely to appear guilty. But more than just making it much easier to cheat, the very definition of plagiarism has been changed by the internet. The existence of standard, reasonably competent, crowd-sourced accounts such as Wikipedia, combined with the ostensible disdain for these same sources, has encouraged a looser style of citation and the rise of paraphrase without attribution—a situation similar to sampling in music. One might embrace this change or not, but it was driven by technology, not social deliberation.

We have, then, de facto changes in public policy and cultural norms. These changes have never been voted upon. Or rather, they sometimes *are* voted on, but in an odd, after-the-fact manner. Technology creates a new set of opportunities, which entrepreneurs exploit. This opens up possibilities for new products or experiences, which some like, others not—for instance, easily accessible pornography on the internet, or cell phone usage while hiking in national parks. Then, through the combination of inevitability (i.e., the belief in technological determinism is the sense of "you can't stop progress") and preference on the part of some, these changes win the day. Another barrier falls; another norm goes by the boards. No wonder that those who Wuthnow called "the left behind" are enraged: they aren't in a fair fight. Decisions are largely made by the release of technology, which changes the social landscape before opponents even have had a chance to express their opinion.

These changes are usually put down to being the result of another kind of inevitability, that of market forces. But these economic interventions have themselves been made possible by innovations in science and technology. It is the scientists and engineers who have functioned as enablers. They have made the continual expansion of leisure, ease, and amusement possible through the continual development of tools, algorithms, and apps, which then allows the continual manipulation of both the natural environment and ourselves. We hear transhumanists saying that AI will just be a tool, which can be used for good or evil. But the effects will be different than that: AI will continue to penetrate our lives, insinuating

itself before there has been any opportunity for a vote on its presence. The result will be another technological *fait accompli*. At the same time, the effects of science and technology in changing our cultural topography remain occult in nature. Like the Wizard of Oz, scientists and engineers do their work behind a curtain, shielded from being held responsible for their creations.

Many people approve of these changes. They emphasize the resulting increase in artistic or personal freedom. Others decry them, but blame Washington, DC, immigrants, or the shiftless poor, or perhaps even capitalism—in fact almost anyone other than scientists and engineers. My point is not to either decry or celebrate these changes. I am not claiming—or at least, not simply claiming—that these changes are examples of how we are moving culturally from better to worse. I do believe that our aesthetic products need to be more governed by ethics, but this argument is not a screed for a return to the glorious days of the past, times filled by racism, sexism, homophobia, and other social ills.

These changes, driven by technology, whether judged to be for good or ill, are now in the aggregate overloading the system. We have exceeded the capacity of society to absorb these transformations—even as technologists like Kurzweil call for us to increase the churn. As a result, we are now decreasing rather than increasing our freedom, and contributing to our own social disenfranchisement.

Notes

1. There is also, in some quarters, the self-loathing male who makes a public display of denigrating his status, lamenting his privilege, and deferring to others.
2. At the same time, Hays claimed that Hollywood "serves the important purpose of complete relaxation, that shouts no message, points no moral, or teaches no lesson." Quoted in Doherty (2007, 154).
3. In a letter to Eastwood, who also directed the film, John Wayne protested the film's iconoclastic approach: "That isn't what the West was all about. That isn't the American people who settled this country" (Biskind 1993).

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5 Science as Pharmakon

> The entire business model of these trillion-dollar companies is attention engineering. It's poison.
>
> —Hany Farid

1

Let's review where we are. I've sought to understand the impulse toward transhumanism. It can be as simple as the desire not to die. But when this impulse is tied to science and technology the story gets more complicated. Chapter 4 offered an archeology of the intuitions underlying the transhumanist impulse. The chapter argued that art has more influence on cultural norms than does argumentation; that a culture's intuitions are largely set by its dominant artistic tones; and that in mass society, these tones are significantly affected by the characteristics of the media of that society.

Heidegger loomed over the chapter. His account of art is central to the points I draw from the Hays Code and Hollywood film. Art is usually understood as an expression of an artist's subjectivity, which generates a subjective response on the part of the viewer. For Heidegger, however, an artwork "works" when it resonates so powerfully that people change their attitudes *and* their lives. This could be called an epistemic theory of art, for art facilitates our realizing the truth of things. It's also a metaphysical theory of art, for art changes our reality, or as Heidegger puts it, the meaning of being. And finally, it constitutes a political theory of art: the world is changed through many types of effort, but one of the most potent is the power of artistic vision.

I then tied Heidegger's account of art to a theory of media in mass society. A medium isn't a neutral conduit of information; rather, the characteristics of that medium powerfully affect the tones and themes of the art that's produced. When scientific and technological advances change the nature of the media, this in turn affects the nature of the art being made, with decisive downstream effects on politics, economics,

and culture. Transhumanism is about boundaries—or more precisely, the erasing of all boundaries, physical and cognitive capacities, and cultural norms. Humans always had an urge toward the infinite. But our willingness to accept and even embrace the unboundedness that is the calling card of transhumanism has been promoted by the breakdown of norms and boundaries in our cultural productions. This breakdown has been driven by new media technologies.

Finally, Chapter 4 highlighted a neglected aspect of technological determinism. New cultural habits spring up out of the opportunities afforded by technological innovation. The resulting behaviors take society by storm, overwhelming those who oppose these changes and short-circuiting democratic processes. For instance, one might want to go hiking in a national park in order to get away from the wired-in world. But now technology presents hikers with a choice that many would rather not have—whether to bring a cell phone. This can even arrive as a moral imperative: you *should* bring a cell phone on your hike, in case of an emergency. What if your daughter breaks her leg? But of course, this also means that your boss can reach you, and by not answering you could you endanger your job ("why didn't you bring your phone along?"). And by the way, those clouds on the horizon—could a storm be brewing? Check the weather forecast. What used to require skill—knowing how to read the sky, and when to hike in the mountains—is now reduced to depersonalized knowledge downloaded via an app. Finally, not only have your choices been reordered without any deliberative process, but you now end up hearing someone chattering about a business deal on their phone while climbing the switchbacks on the Garnet Canyon trail in the Tetons.

The account offered in Chapter 4 was in the first instance sociological in nature. It traced a set of cultural changes distinct from attempting to evaluate them. Many view these changes as positive. In fact, *I* view many of these changes as positive. At the same time, I'm concerned with the overall loss of a sense of limit. One of the ironies of our situation is that any protest against social and technological acceleration is liable to be labeled reactionary. We've reached an odd pass when anything less than the embrace of infinite desire becomes "conservative." Some of us are reluctant Burkeans: we are aware of the awful aspects of the past, and appreciative of the gains of the present, but believe we need a new model for the future.

These are vexed issues, and I want to be candid about the argumentative burdens I've taken on. I seek to stake out, or perhaps create, a progressive space short of excess. Unfortunately, it's not clear that the space I am hunting for exists as either a theoretical or practical possibility. It's difficult to advocate for a mean in an age of infinite acceleration; indeed, it is difficult to *define* the mean under such conditions. I believe that our culture has swung dangerously far in the direction of cultural license and

disruption, and I fear a reaction. This places me on the side of containment rather than license—a position that I'm not entirely comfortable with. The alternatives, however, seem worse.

Consider our situation. The chances of something going seriously via technological hubris wrong seem increasingly likely. To pick one example from myriad possibilities, it beggars belief that "garage" microbiology (the practice of synthetic biology by people outside of institutional constraints) remains unregulated if not banned outright. A 2017 Brookings report identified some 30 DIY bio groups in the United States, with some 30,000 members seeking to reprogram our genetic code (Kolodziejczyk 2017). Self-experimentation is occurring with absolutely no controls in place. Nor are these dangers limited to the material realm. The amount of stress, disruption, and sheer change in contemporary life leave many spiritually exhausted. But on the other side, anyone who calls for limits to be placed on knowledge culture faces two major obstacles. Who will define where those limits will be placed? And assuming we can answer this question, how would the resulting limits be enforced, given the unruly, global nature of techno-scientific advance?

This chapter extends the argument of the last by exploring the interplay of limit and excess across contemporary society. It begins again with our cultural productions, drawing out the differences in tone or *Stimmung* between classic Hollywood cinema and contemporary video productions, especially those with transhumanist themes, and pays particular attention to the question of transhumanism and violence. These changes are read as being largely the result of the development of an uncontrolled media environment. This leads to a discussion of the possibility of imposing limits on violent depictions, what is otherwise known as censorship. I defend a type of censorship that focuses on tone rather than content. The conversation then widens to more general reflections on the idea of limiting our technoscientific productions.

The chapter closes with an account of the possible consequences of continuing our libertarian attitude toward technoscientific advance. I explore the question of whether the lack of limits on technoscience is creating a drug culture that threatens the very autonomy that it is intended to promote. Science and technology are described as a *pharmakon*—both a cure and a poison, offering relief while also creating an all-enveloping drug culture destructive of human autonomy. The dream of infinite freedom via technological development seems likely to lead to bondage.

2

The cultural landscape today is vast: no source could possibly dominate the landscape as classic-era Hollywood once did. But this complexity should not be allowed to obscure a basic contrast in tone between the productions of that time and today: mean has turned into excess, limit

into immoderation. Where we once had Frank Capra and the Hays Code, we now have *Altered Carbon, Westworld*, and *Black Mirror*.

Each of these series is in its own way a celebration of excess. The first episode of *Black Mirror* (2011) tells the story of the kidnapping of a member of the British royal family. To return the princess, the kidnapper demands that the prime minister have sex with a pig on live television. Eventually he agrees to the demand, and people gather in public places to watch the broadcast. The princess, however, had been released a half hour before, and the kidnapper has killed himself: he was a performance artist commenting on people's obsession with the media.

Look up the reviews of the episode. *The Telegraph*: "Virgin territory indeed. This was a dementedly brilliant idea." *The Independent*: "This carefully crafted and compact drama is engrossing, with the tension rising by degrees as the time moves ever closer for the PM to meet the kidnapper's demands." *The Guardian*: "Political satire—and a very superior one—rather than a sci-fi vision of technology's power to distort the world" (all of these cites can be found on the Wikipedia article for the episode). Read through the entirety of the reviews: not a single expression of unease concerning the plotline. We've traveled a long way from Joseph Breen.

A violent, edgy style characterizes the other shows as well. The first images of *Altered Carbon* consist of a naked couple in the shower, under a garish, gunmetal gray light: they are washing blood off of their bodies, which smears on the tile floor. The camera lingers as fingers probe bullet wounds, and light glints off rivulets of blood snaking down perfectly molded torsos. The series explores the implications of a Cartesian world where bodies are mere "sleeves," and our true selves are contained on a disk that slides in at the base of the skull. It's an interesting idea. But the development of this plotline is wrapped in images of stark violence. The shower scene transitions to an unexplained attack: bodies are tossed across the room by explosions, and bursts of machine-gun fire end in hand-to-hand combat—all in the first eight minutes. Then, when the destroyed "sleeves" are replaced by new bodies, they come tumbling out of their envelopes covered in goop. Respirator tubes are forcibly yanked from windpipes, and the newbies attack the well-meaning medical attendants. In the midst all this, one of the attendants comments, "I think I'm going to be sick."

The function of such excess, especially in terms of violence, is something of a mystery. It scarcely advances the plotlines: for *Black Mirror*, there were many other ways to illuminate the contemporary fascination with the media, and in the case of *Altered Carbon*, the themes of extended life and replaceable bodies does not entail violence, much less the wholesale slaughter the series treats the viewer to. Similarly, the first episode of *Westworld*, which portrays immersive vacation experiences in a 19th-century Western setting, ends with a vacationing couple

machine-gunning the town's robot inhabitants. Violence is a gratuitous feature that runs alongside every narrative. Is the carnage, then, aesthetic in nature? Has violence become an end in itself? And is it something that people *like*?

These examples come from storylines with transhumanist themes, but the tone described here is broadly characteristic of cultural productions today. From a review of the 2018 movie *Revenge*:

> Fargeat's debut feature is an incredibly stylish exercise in horror filmmaking that runs at one of the nastiest and toughest exploitation subgenres—the rape-revenge drama—and gamely tries to update it for the 21st century. Swerving between thrill-a-minute action and intense, drawn-out suspense, *Revenge* has all the subtlety of a bazooka to the face, but it's an arresting watch if you can stomach its most lurid moments of violence.
>
> (Sims 2018)

Nothing like a bazooka in the face! Note the locutions: we "stomach" such violence as a means for another, evidently desirable end: the exploration of the "nastiest and toughest" of genres, the rape-revenge story. The payoff for withstanding the hard-to-endure violence is . . . further immersion in brutality. Extreme violence somehow reveals the truth of rape and of the feeling of revenge. If that's the argument, it begs the question. Rape and revenge has been powerfully addressed without overt violence, for instance, in *Anatomy of a Murder* (1959) and *To Kill a Mockingbird* (1962). What's gained by the increase in explicitness and the inveterate norm-breaking?[1]

For those who question whether there has been an increase in violence, attempts have been made to quantify the change. One study in *Pediatrics* examined the prevalence of gun violence across 945 movies, containing 17,695 acts of violence, from 1950 to 2012 (Bushman et al. 2013). Data was taken from the 30 highest grossing movies of each year. It offers some confirmation for what is intuitively obvious: films have become much more violent. The article concludes: "violence in films has more than doubled since 1950, and gun violence in PG-13-rated films has more than tripled since 1985." Since 1985, 94% of the 420 films had one or more five-minute segments containing violence. There is even evidence of a trade-off between sex and violence: in recent years, PG-13 movies have been more violent than R-rated movies. The article, however, does not discuss the question of the harder-to-quantify explicitness of the violence, which has also increased.

It's rare to find someone who admits to taking pleasure in the depiction of gore. Instead, when pressed, it's common to hear "well, it's not real, after all"—as if this either explains or exculpates its presence. Or one is told that the depiction of such violence makes the movie more real. In

fact, many turn away or refuse to watch at all. But this has not prompted discussion of ending the depiction of such violence, except perhaps by religious conservatives. The suggestion is considered illiberal.

3

One explanation for the prevalence of portrayals of violence is that it reflects the disquiet of our time. When Auden published *The Age of Anxiety* in 1948, he was concerned with the loss of stability and meaning in the modern world, misgivings that in retrospect seem quaint, given the pace of things today. If we view art in terms of its cathartic powers, the creation and release of anxiety serves a psychological function. If we view it in terms of the market, the goal is to raise one's anxieties and then provide a pill or product or politician to alleviate them. Either way, violence sells. But should it be sold?

Auden was on to something. Excitement and anxiety are the twinned responses to constant change. The $n + 1$ of endless overcoming has been the modus operandi of modernity. Modernity (from the Latin *modo*, "just now") is the hunger for the always-more. It embodies an ethics of transgression: the enemy of the given, it can make no peace with the sacred, which inevitably involves the notion of a limit. Violence violates, and violation—norm-breaking—is the central trope of modernity. We would be masters and possessors of nature; we would put nature to the vise. And then feel bad about it.

Norm-breaking began in the service of particular ends. Improved health, for instance, might require previously unspeakable deeds such as vivisection and the cutting open of cadavers. The efficiencies of capitalism required the breakdown of traditional social relations. Other norms were psychological or cultural in nature—for instance, movements toward giving people equal status no matter what their race, color, or creed, gender, or sexual orientation. But it is characteristic of norm-breaking to grow ever more radical. It's not enough to cure existing diseases; now aging will be redefined as a disease. It's not enough to seek gender equality, and to accommodate those who are transgender; now gender itself must be jettisoned. Not only do the goals become more radical; they eventually become purposeless, as norm-breaking becomes a goal pursued for its own sake. Attention turns to whole-body tattoos and other forms of body modification, extreme sports, BASE jumping, and biohacking. Transgression in the service of an ethical or political end turns into an aesthetics of transgression. Modernity reaches exhaustion and brooks absurdity, but as the children of Darwin and in pursuit of the profit motive we cannot find a measure and thus a justification for where to stop.

Arguments rejecting the idea of measure, whether in terms of aesthetics or in terms of more general technoscientific development, are well-rehearsed. First in terms of rationality: how do we determine what's

acceptable, and what's not? Public debate has become ever more fractious, as we have lost common premises for decision-making. Consensus seems to lie further and further away. Then in terms of control: there are innumerable sites for artistic production, and nearly as many places of technoscientific research, governed by a wide variety of regulatory regimes. And there are also any number of rogue efforts funded by eccentric billionaires. Regulation seems doomed to failure. In sum, consensus is both impossible *and* unenforceable, leaving us with the default position of laissez-faire technological advance. In the case of artistic production, if you don't like such fare, then simply turn away. No one is making you watch it. In the case of technology more generally, no one is forcing you to own a cell phone.

The difficulty of responding to these arguments lie more in a failure of will than in the impossibility of refutation. We've abandoned the work of consensus—another norm lost. Lippmann noted that "the goal of politics is not to get everyone to think alike, but to get people who think differently to act alike." The fact that defenses of the current level of violence are so tepid suggests that it is possible to find a consensus.

Our libertarian attitude toward cultural productions and technological progress makes its gains at the expense of community. It announces its commitment to personal freedom, while precluding another type of freedom, our freedom to be part of a community with shared standards. I do not mean to gloss over the difficulties of the status quo, consisting of 325 million Americans of widely different backgrounds and with access to a near infinite number of media sources. But to lessen our cultural anomie we need to slow down the accelerating pace of technological change. To do that, we need an analysis of our situation—including an account of how changes in our norms occur—as well as a sketch of the way forward. Perhaps the greatest impediment to this consists in the fact that libertarian assumptions have become so deeply engrained in our culture that complaints against excessive violence or runaway innovation are taken as evidence of closed-mindedness, if not bad social manners.

The establishment of community standards—whether in the case of the violence of our video productions, or more generally for technoscientific advance—doesn't require a grand inquisitor ruling by diktat. Norms can be democratically identified, with accommodations for minority rights. In any case, nothing is going to be eliminated; there will always be rogue elements. The goal is to increase the friction: to identify norms, and to marginalize the violators of those norms by a mix of restrictions and shunning rather than simply ceding the future over to them. The most straightforward way to do this is by practicing anticipatory governance over science and technology—which was what the Hays Office did—where the social effects of innovations are discussed on the front end. Then disapprobation can have its accustomed effects.

There are intimations of a change in attitude, coming from of all places famously libertarian Silicon Valley. An element of judgment is emerging, spurred in part by the consequences of unregulated social media. Thus Snap CEO Evan Spiegel has voiced concern that social media encourages "mindless scrambles for friends or unworthy distractions" (Tarnoff and Weigel 2018). Similarly, the Time Well Spent movement makes judgments about what counts as time well or poorly spent. So far these are only isolated voices. But they raise the possibility of having conversations about re-establishing norms in the face of technological disruption.

For my part, I see the argument against graphic violence as straightforwardly phenomenological in nature. Imagine you're driving down the road. A rabbit darts out, and you have no time to react. You feel the thud, and feel bad about it. It doesn't matter that you know that the rabbit will provide food for the crows. Something bad has happened, and you wish it hadn't. Of course, there are those who, when they see an animal on the road, aim for it. But this is the kind of behavior that we raise our children to avoid.

Watch the trailer for *Revenge* (available online). It shows the female protagonist being chased by two men, companions of her boyfriend. They end up near a cliff. Her boyfriend intercedes, standing between her and her pursuers, seemingly to protect her. Suddenly he whirls and shoves her off the cliff. The camera cuts to a long shot; you see her fall to her certain death. It's a terrible shock. Later we discover that she was miraculously saved; soon, loaded with weapons, she goes about exacting her revenge. But stay with that moment when she is pushed off the cliff. Isn't our reaction the same as when we hit the rabbit? After all, it's not something we should take pleasure in.

We are told it's just celluloid (or in our digital era, zeros and ones). But this misses the point. It's wrong to take pleasure in vicious acts. Yes, bad things happen, and we need to acknowledge them in both life and art. But this can be done with discretion; in fact, discretion adds to rather than diminishes the art. There is no justification for the vast majority of the extreme violence that has become so common. It simply degrades our sensibilities. Yes, there are occasions when it's important to see the full reality of something heinous. Then let us do so. But this constitutes a small fraction of the instances. The rest shouldn't be indulged in.

There are difficulties with this defense of limit in its social manifestations, what is commonly known as censorship. There will be disagreements on what's justified and what's gratuitous. There will be difficult issues of implementation. For a certain percentage of people, the suggestion of any restrictions (whether of art, or as will be discussed below, of the pursuit of knowledge) will be anathema. Let them give their reasons. But let's stop short-circuiting the conversation, and acknowledge that laissez-faire technological development has done the short-circuiting.

4

Ted Kaczynski has a poor reputation. It's well-earned: as the Unabomber, he was convicted of killing three people. He is serving a life sentence without the possibility of parole at the supermax federal prison in Colorado. His efforts to promote his opinions were brutally effective: who would know of his 35,000-word manifesto, *Industrial Society and Its Future* (*ISAIF*), published in 1995 in the *New York Times* and the *Washington Post*, if he hadn't resorted to violence?

Nonetheless, it's not behavior I am willing to defend. As the argument above indicates, I believe we suffer from too much violence already, in the real world and in our representations. There are times when violence is justified, but the reader will have to look elsewhere for an account of that. My interest in Kaczynski is as a social critic and student of media culture—not our deepest, and spotty in his autodidacticism, but in certain ways quite on point. I'm also interested in the reaction to Kaczynski. Given the publicity around his claims and actions, his dismissal as simply evil or insane is a telling commentary on our blindness to the effects of science and technology.

Kaczynski saw, from his position within the world of STEM research and education, that the driver of a great number of societal ills was the supposed solution to those ills: scientific and technological advance. Hired as assistant professor at the University of California, Berkeley, at 25 in 1967 to work on boundary functions in mathematics, Kaczynski resigned his position in 1969. Some accounts see this as motivated by his realization that he was training undergraduates to work in the defense industry. Kaczynski reports, however, that he was then a supporter of the Vietnam War. He resigned because he "hated living in the technological society and wanted to escape from it by going to live in some wild place."[2]

This faulty interpretation, however, does have the advantage of matching the argument of Kaczynski's manifesto, which describes how advances of science and technology obscure the ways in which these same forces disrupt society. The manifesto challenges the long tradition which views science as objective and technology as a neutral tool:

> #50. The conservatives are fools: They whine about the decay of traditional values, yet they enthusiastically support technological progress and economic growth. Apparently it never occurs to them that you can't make rapid, drastic changes in the technology and the economy of a society without causing rapid changes in all other aspects of the society as well, and that such rapid changes inevitably break down traditional values.
>
> (*ISAIF*)

What is neutral about knowledge and tools that constantly overturn established societal relations, creating both winners and losers? Kaczynski

challenges the peculiar belief where the efforts of scientists and engineers are seen as beneficial in their positive effects, but neutral where the consequences are negative.

The chain of causality running from scientific discovery to technological innovation to political, economic, and social effects is often long and winding. Effects may be laundered, becoming visible only far downstream, as with climate change, which shows up as drought, civil war, migration, and reactionary politics. The problem of the knock-on aspects of ethical responsibility was raised by Aristotle. He noted that while a drunk may not be responsible for his actions, he is responsible for being drunk, and discusses how the paths by which praise or blame are apportioned can be quite intricate. But the difficulties Aristotle discussed are now multiplied ten and a hundredfold by a global culture where the fates of billions of people are tied to one another. Societal interactions have become so complex, distant, and diffuse over time and space that ethical cause and effect has become dauntingly difficult to identify.

We're intuitively aware of this. You call a corporation and work through a menu of options, then are asked to prove your identity, then transferred, then put on hold. By the time you actually get through to the proper representative you're tempted to yell, even as you recognize that they are as powerless in this relationship as you. Globalization accentuates our powerlessness, and feeds fantasies of libertarian rebellion. But while our complaints are about our credit card company or our phone service, cable bill or mortgage lender, all of these companies presuppose the massive systems of information and communication technology (ICT) created by the wizards behind the curtain. We thus misdirect our criticisms and attack straw men. Thus, according to Thoreau: "There are a thousand hacking at the branches of evil to one who is striking at the root." Scientific and technological development lies far upstream from the cultural effects that get all of the attention. But if we seek the roots of our problems, we should turn to the origin: technoscientific knowledge.

This requires the cultivation of a mental habit. Consider the opioid crisis. In the United States, there's a disparity in opioid death rates by gender: men die by a 2 to 1 margin. The cause of this difference is unclear, but we do know that certain occupations in America have been in long-term decline, in many cases jobs that were predominantly filled by men, which depended on physical strength. Some politicians play upon nostalgia and call for re-establishing the coal industry; others call for retraining miners with the skills of computer programmers. But it is rarer to acknowledge the fact that there is a percentage of men who rebel at such work. They reject interior, mental work, sometimes from a lack of ability, but more often because of disinclination:

> Some of the later-in-life blue-collar workers who are still here can be loath to learn new trades. "We've heard when working with some of the miners that they are reluctant because they're very accustomed to

> the mining industry," said Linda Thomson, the president of JARI, a non-profit economic development agency in Johnstown that provides precisely the kind of retraining, . . . "They really do want to go back into the mines. So we've seen resistance to some retraining."
>
> (Kruse 2017)

When first meeting someone, we ask "what do you do for a living?" We identify with our jobs; our occupation becomes a central part of who we are. There is a cohort of men who will not become nurses or clerks, for their sense of self is tied to traditionally masculine professions like construction and manufacturing. Deny these people an outlet consistent with their nature and many will become discouraged. Some will turn to pharmaceutical relief like opioids, and die at a higher rate.

And if they do not turn to despair, then to anger. Trump made no sense as a presidential candidate in terms of either policy or character. He could not articulate coherent policy positions; his views were cartoonish, all over the map, and changed on a dime. And his personal history was that of a grifter: he swindled the very drywallers and plumbers he claimed to represent. But Trump had one powerful point of connection: he resonated on an emotional level with the disenfranchised, those susceptible to the politics of resentment, grievance, and humiliation. His inarticulateness ("bigly") matched the blunt rage that many felt; his boorish personal behavior resonated with those who felt constrained by "political correctness." Trump was also adept at the politics of racial resentment: white men voted for him by a 32% margin, white women by a 10% margin (Sasson 2016). But what was the cause of this anger? Wrenching cultural change, robotics, artificial intelligence, and the offshoring made possible by ICT, which had rendered these men and women redundant.

It may seem unfair to blame the likes of Tim Berners-Lee for our problems. What did he do, other than help invent the miracle of the World Wide Web? And why point to one node in the web of causality, that of the technoscientist, when there are so many other links that also bear responsibility? The point isn't to place all the blame on the creators of these capacities. But they are implicated in the drama, in a fundamental way, which has not been sufficiently acknowledged.

The opioid crisis wasn't a randomly chosen example. It highlights the downstream effects of science and technology and serves as entrance to more general reflections on the addictive qualities of technological advance. The further advance in drugs and technology portends their isomorphism, threatening the freedom that we thought would come from these aids in the first place.

5

Heidegger once noted that science had become our theory of the real. But the real that technoscience offers today consists less of the enframed

space of the laboratory than the corporate-created fantasies that flood the media. The seductions of the virtual world increasingly trump the attractions of the natural environment. This is especially the case for our less educated fellow citizens—studies show that privileged parents are more likely to restrict their children's media diets. Teen violence is down, but this may be because it has been displaced by the virtual violence of video games; sexual promiscuity has declined, but this may reflect the onanistic opportunities of the internet.

Realistic looking, interactive, and fully functional sex robots haven't yet arrived, but online pornography already offers a sexual experience that many people (especially men) find adequate. In the words of a *Washington Post* article, "Noah Paterson, 18, likes to sit in front of several screens simultaneously . . . to shut it all down for a date or even a one-night stand seems like a waste" (Douthat 2016). The performers on Pornhub may be actual humans, but such sites already have anime characters engaging in sex, and the human performers themselves act robotically. It's part of a larger trend: social interaction increasingly consists of the virtual realities of the internet. The Japanese Health, Labor and Welfare Ministry claims that there are more than a half million *hikikomori* in the country—people, usually young men, who haven't left their homes or physically interacted with others for at least six months.

Our ontology needs updating: the distinction between drugs and technology is disappearing. Continued advance in both areas endangers our autonomy, as drugs and technology both develop to the point where we are losing the ability to abstain from them. A 1991 *Star Trek: The Next Generation* episode titled "The Game" explores the point. It begins with a member of the *Enterprise* (Commander Riker) on vacation. He is introduced to a new amusement, which is played by wearing a pair of glasses. The player retains his normal field of vision, but he also sees red trumpet-shaped objects and blue disks floating before his eyes. By act of will he can move the disks into the trumpets, where the disks disappear. This counts as a winning play, and the player progresses to the next level.

The attraction of the game, however, is more than simple competition. The player also receives a spasm of physical pleasure each time a disk falls into a trumpet. But that's not all: the game is instantly addictive. Once begun, people cannot resist continuing. Nearly the entire starship ends up under the spell of the game. The effects of the game are such that people's cognitive functions remain intact; they can continue to perform ship functions. But they have lost their free will. The point of all this is political intrigue: an alien race has introduced the game in order to take over the ship. Their plans are finally foiled by a young crew member who is curious about the mechanism of the game and examines it before playing.

The episode has grown in relevance over the years. (When first shown, the political overtones seemed silly; now, in the wake of the role of Facebook in the 2016 US presidential election, less so.) It poses questions about

the relationship between drugs, technology, eros, addiction, and human autonomy that have somehow failed to be treated altogether. What's the difference between a drug and a technology if a headset can stimulate pleasure centers in the brain just as a drug might? Drugs are technologies that work at the level of biochemistry and (sometimes) human consciousness, while technology increasingly has the habit-forming characteristics of drugs. If a device affects us in the same way that drugs can, then drugs and technology simply become different ways to the common end of the satisfaction or manipulation of our desires.

"The Game" also highlights the erotic element within the technological impulse (the episode makes it clear that the pleasure is orgasmic in nature). Technology often has an erotic component—for instance, in the muscle cars of a bygone age. People love to be seduced by technology, to be drawn in and fall under the spell of a device. Similarly with drugs: people take them for many reasons, but surely one consists in the deliberate loss of control, the willing to give up one's will. There is a type of freedom that comes from relinquishing one's will, whether it occurs through drugs, religious enthusiasm, riots, mass sporting events, or political rallies. Technology has become another prominent avenue for this loss of control.

When it works as it should, being seduced involves the delicious sensation of opposition gradually giving way. We resist the attractions of a person, drug, technology, or idea, only to slowly fall under their (or its) spell. (Note the ambiguity of the technological "fix," which implies not only the correction of a problem but also the delivery of an additional dose of a habit-forming substance.) Of course, acknowledging the attractive aspects of seduction is fraught, especially today, given our heightened consciousness of sexual impropriety in the wake of the #MeToo movement. Ethical seduction involves an Aristotelian mean: not carried far enough and the erotic charge fades; pushed too far and the situation moves toward assault.

Addiction has become a dominant motif in contemporary culture. But while "addictive" is casually cited to describe a wide range of affairs (e.g., "he's addicted to his cell phone"), it's not clear that we've treated the term seriously enough. We're witnessing a wholesale loss in our ability to resist the temptations modernity places before us, in an increasingly unequal battle between our natural endowments and the sophisticated temptations generated by media, technology, and advertising. We've engineered a culture where we are increasingly reduced to being the playthings of overpoweringly seductive forces.

Consider the following supposedly unrelated points:

- In 2017, more than 72,000 people died from opioid overdoses in the United States—a greater number than all the American soldiers who died in the Vietnam War.

- A family of four dines out. They sit with necks bowed, not in mourning or in prayer, but in rapt attention to the flickering light of a tiny screen. There's only perfunctory conversation.
- The World Health Organization reports that obesity has tripled worldwide since 1975. As of 2016, nearly two billion adults over age 18 were overweight. More than half of American adults are overweight, with a quarter of the adult population defined as obese. A *New York Times* article from 2013 quotes a vice president at Kraft Foods, who draws a comparison between the addictive qualities of processed foods and those of tobacco (Moss 2013).
- In 2017 the average American has credit card debt of more than $6,000. According to a report by the Federal Reserve, total credit card debt has surpassed $1 trillion in 2017. And 4 in 10 Americans cannot cover the cost of a $400 emergency expense from their own resources.

Perhaps it's time to collect these scenes under a common heading.

Book VII of the *Nicomachean Ethics* explores the question of *akrasia*—what we call incontinence or the lack of self-restraint. Aristotle distinguished between two types: weakness and impetuosity. The latter is easier to explain—when someone is so moved by their passions that they do not take the time to deliberate. Deliberation, and regret, comes afterward, if at all. But *akrasia* in the sense of weakness of will is something of a mystery. In claiming knowledge is virtue, Plato is wondering how anyone could deliberate, and identify the correct course of action, and then do something else. This explains why from Plato onward, thinkers have marked out different parts of the soul.

Self-control (or its lack) operates within an erotic economy. There's both a supply and a demand side to temptation: how powerful are the sources of delight, and how strong are our powers of restraint? The dangers today come from the supply side: the manipulative capacities of governments and corporations both technological and psychological overwhelm our meager powers of self-control. Modern culture has become expert at arousing our passions. Justin Rosenstein is the creator of the Facebook "like" button, but he has deleted the product from his own phone; he compares it to "bright dings of pseudo-pleasure." Chamath Palihapitiya, the former head of user growth at Facebook, has said that the company is "ripping apart the social fabric of how society works" (Bowles 2018). Politicians appropriate the rhetorical skills of humanists to manipulate voters, persuading people to vote against their own self-interest. Similar skills are used by designers and advertisers to make consumer objects so handy and delightful that "addictive" becomes less a metaphor than an actual state of affairs.

The urge for the technological fix expresses an attitude that's fundamentally anti-Buddhist in orientation. Buddhism sees desire as the cause

of suffering, and provides skillful means for tempering our desires. Modern society takes the opposite approach: to first stimulate and then satisfy our desires. Modernity runs on this cycle, using science and technology as the means for providing ever more powerful and entrancing repetitions of stimulation, frustration, and satisfaction—the behavior pattern of the addict.

Technology was born in the need to bridge the gap between our desires and what the world naturally provides to us. It seems to matter less and less whether this gap is closed by changing the world via technology, or by changing our perception of the world, through the technology of drugs. One could argue that changing our consciousness is the more efficient and ecological choice, since it eliminates the need to actually intervene in the world. For all the talk of taking the red pill of enlightenment, people are more and more willing to live in their own private world. The dominance of the pleasure principle is a point that we will return to in the next chapter, when we consider Hegel's concern with the "suffering of the negative" and what Heidegger means by *Sein-zum-Tode*. But note here what's being lost: the desire to know reality as it actually is.

"The Game" raises the question of whether it is possible to create a technology, such as an app or a video game, or for that matter a drug, so pleasurable or addictive that people would be unable to stop themselves once they have experienced it. "Unable to stop" is an ambiguous phrase; philosophers have puzzled over the question of free will for thousands of years. Not that this tradition plays much of a role today: in recent decades we've medicalized the issue of addiction via the disease paradigm. Genetic markers have been found for e.g., alcoholism, but it is unclear how far that takes us in understanding addiction, or to what degree we should remove a sense of personal responsibility for addiction. But there should be more concern with the possibility that, Star Trek-like, further advances in technology could render the question moot.

In the *Phaedrus* Socrates states that philosophy is a *pharmakon*, both a medicine and a poison. Science and technology today present us with a similar range of function. Like philosophy, they need to be administered with care, lest we poison ourselves.

Notes

1. Of course, sex and violence form a prominent part of art throughout history. Thus Homer: "There are myriad of ways to die in the *Iliad*. You can be eviscerated, brained, decapitated, or crushed. You can get stabbed, sliced, shot, or rock-pounded from any angle. Your eyeball may be torn out and hoisted on a spear, your spine cleft from your back, and your hacked-off head may fall to the dust with 'mouth still speaking' " (Saunders 2017). More recently, Chekhov has his share of gore, murdered babies, and the like. The difference today is the peculiar power of video over the abstractions of text.
2. Personal communication, October 21, 2017.

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Excursus II

Philosophy, Rhetoric, Policy

Some of the puzzles of philosophy are largely private in nature—for instance, the enjoyment of a work of art. Others, such as those surrounding ethics and political philosophy, or for that matter the social function of art, raise issues of more obvious public interest. But even in the latter cases, these questions often operate at a remove from the hurly burly of life.

At rare moments in history, philosophy gains immediate and pressing relevance to public life. I see today as one of those times. Assumptions that have long guided us are losing their grip. Democracy is ascendant, as social media promotes populist movements; democracy is in retreat, as ethno-nationalism and authoritarianism grow in popularity. The percentage of people who believe that it's essential to live in a democracy has dropped sharply in the United States and elsewhere, especially among the young (Foa and Mounk 2016). Modernity is under fire: Enlightenment ideals of universal reason are dismissed as irredeemably biased in character, and technoscientific advance is criticized for possibly leading to catastrophic results.

It's distressing, then, that when society so needs its perspectives, the humanities are in so poor a state. Dismissed by society and increasingly marginalized within the university, humanists compound the damage by being so inward-focused. Visit the Eastern Division meeting of the American Philosophical Association: speakers *read* their papers, on arcane topics, mimicking the sciences in the pursuit of recondite truths. The results are apparent: a room of seven, three of whom form the panel, as the disinterested audience checks Facebook. The APA makes no effort to widen its audience by advertising locally, or by providing a public lecture series, and organizes no panels of scientists or policy makers or local citizens to describe the philosophical challenges they face, as part of prompting opportunities for common projects.

Gaining a more vital role for philosophy and the humanities, and one with clear policy implications, will require the rethinking of habits both theoretical and institutional. This should begin with our place within the university. Of course the humanities belong within the university; they form its heart and soul. But not *only* in the university, and not only

in their current position in the university. The humanities aren't disciplines, or at least not in the way the sciences are, so we should not limit the housing of humanists to their own separate departments. This, however, is the only model we have, with partial exception at a few schools like Michigan State and Arizona State. Devising new roles that are effective and sustainable will require research *on* as well as *in* the humanities (Frodeman 2017).

In *Socrates Tenured* we offered suggestions on how to increase the relevance of philosophy. But our central point was a meta-level claim: we need to treat the question of relevance or societal impact as a philosophical question in its own right. It's *hard* to be relevant; we need research on the problem. The failure, by and large, of applied philosophy to be taken up by outsiders suggests that impact is far from easy to accomplish.

When they've thought about it at all, philosophers have assumed that impact was an automatic process akin to trickle-down economics. The hard stuff consisted in devising the concepts rather than in integrating these insights with specific circumstances. The latter consisted of outreach, or even dumbing down, rather than the real work of philosophy.

This error is rooted in the humanities' embrace of disciplinarity. If one's audience is a preselected group of specialists sharing the same background and interests as you, then there is no need to give much thought to either rhetoric or impact. Professors are rewarded with tenure based on pleasing their colleagues rather than researchers in other fields, or those across wider society. But as universities experience increasing pressure to be relevant, the institutional home of philosophy as well as the nature of philosophical work is likely to change.

Twentieth- and now twenty-first century humanists have had one research function within the university. Today the roles and institutional homes of the humanities need to be pluralized. By my count, philosophers and humanists have five institutional spaces to occupy: three within the university, one shuttling between the university and society, and one abroad in society. Each of these institutional situations implies different criteria for research.

In the university, the first of these roles consists of the type of research that philosophers and humanists have already been doing. Specialist research will continue to generate valuable insights. But this disciplinary role needs to be complemented by a task where humanists are spread across the disciplines, either permanently housed in another department or seconded there for an extended period, the length of time tied to the length of a project. The STEM disciplines increasingly raise questions about the broader impacts of their research, so let's embed humanists in these departments, where they can help with questions of broader impacts and provide a critical perspective.

A third role for humanists is recursive in nature: turn their education and perspectives to the task of helping universities cope with the

challenges facing academia today. Knowledge production is changing, and we're facing a period of consolidation across higher education. In the United States this could mean the closure of hundreds of institutions, as increasing amounts of content are delivered online and by companies that take on worker training themselves. The institutions that survive—excepting those few, like Harvard and Stanford, that have the endowments to do as they please—will be those that excel at making their research and education relevant to one or another part of the public. "Relevant," of course, should not be taken to only mean economically productive, but to also encompass concerns of justice and social equality.

Universities lack an organ for thinking about their future—a center or a department concerned with the linked theoretical, practical, and institutional questions surrounding the future of knowledge. To the degree that this is considered at all, this role is now handled by overworked and distracted administrators who often lack the background for addressing these types of questions. There's a tradition where retired college presidents opine on the future of higher education (e.g., James Duderstadt and Derek Bok); this work contains valuable insights. But it's not as if such people had done research on this topic before gaining their practical experience. More on point are the efforts of the Glion Colloquium, a 20-year series of meetings for university presidents which has resulted in a series of volumes (www.glion.org/). This gap is also being addressed by the emergence of the field of critical university studies.

A fourth role is what in *Socrates Tenured* we called the field philosopher. Field philosophers shuttle between academia and the larger world. Housed in the university and enjoying the protections of tenure, they do their work via case studies with non-academics. When a project ends, they return to the department to recharge their disciplinary batteries, sharing the insights they generated with their students and colleagues.

A fifth role consists of the philosopher bureaucrat, someone with philosophical training who has left the academy to work in the public or private sector. Philosopher bureaucrats are philosophers who have gone native, doing (somewhat crypto-) philosophical work in the world beyond the academy. There are already philosophers scattered across the public and private sectors, but so far this has largely been the result of accident and individual initiative. Philosophy should make an organized effort to train and embed philosophers in extra-academic locations.

These five roles, or something like them, could constitute the ecosystem of 21st-century philosophy. The alternative is to watch the slow—or perhaps not so slow—diminishing of the humanities through cutbacks and technological replacement.

But let us be candid: these new roles not only open up new possibilities but also new dangers. The melancholy fate of Socrates stands as a signpost; but if physical harm today is unlikely, at least in the West, the risks facing philosophers and humanists shouldn't be underestimated. The

sciences are protected by the implicit instrumentalism of their practice; the humanities speak of first and last things and challenge people's core values, a much more dangerous endeavor. This is where tenure serves a crucial role, but make no mistake, social disapprobation remains a powerful force.

Leo Strauss (1952) emphasized the long tradition within philosophy of negotiating the challenges surrounding speaking truth to power. In *The Conflict of the Faculties* (1798), Kant sought to thread the needle, describing the university as both serving and criticizing the state. The upper faculties of law, medicine, and theology would tend to the needs of the state, while the lower faculty of philosophy and the arts would be autonomous, tasked with pursuing truth wherever it led. Kant mitigated the danger of the lower faculty by emphasizing the theoretical nature of autonomous reason, which would place it at a remove from practical life.

Today we are being prompted to be more relevant than that. But relevance has its downsides. All of the roles just described involve greater professional risks than normal disciplinary practice. In order to navigate these dangers it is useful to note the distinct personas that the philosopher and humanist can inhabit. Four of these might be called the arbiter, the debunker, the worldmaker, and the judicious thinker.

- The arbiter is the philosopher or humanist who presents the philosophical elements of an issue in a neutral fashion, contributing in ways similar to any other type of expert. O'Rourke and Crowley's Toolbox Project (O'Rourke et al. 2013), which helps interdisciplinary working groups to become more self-aware of their differing epistemic and ethical assumptions, offers a recent example of such work.
- Perhaps even more than Socrates, Nietzsche is the exemplar of the debunker. Probing beneath the surface of assumptions to reveal new and sometimes uncomfortable perspectives on an issue is a fundamental task of the humanist—albeit one that can land them in trouble. Churchill's essay on 9/11 (2001) is an infamous recent example of this.
- The worldmaker is the positive counterpart of the debunker, sketching out new possibilities for our personal, social, political, or metaphysical lives. The work of Ursula Le Guin, William Gibson, and Margaret Atwood has functioned in this way.
- Finally, in counterpoint to the worldmaker, the judicious thinker keeps in mind a point made by Edmund Burke: social institutions are fragile, and more easily torn down than re-established. Leo Strauss emphasized that one should exercise caution in terms of what can and cannot be publicly stated.

The talents and inclinations of given individuals vary, and so it is only natural that one or another of these personas will predominate. But the public philosopher and humanist needs to keep all four of these roles in mind. The pursuit of any of these roles to the exclusion of the others can be dangerous. Exercising concern for the rhetorical context of one's speech is not a call for dissembling, but it is a plea for caution.

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6 Meaning and Mortality

1

The rhetoric can be breathless: download streaming video to your brain! Call up the internet by act of will! There are promises of earthly delights: trick yourself out with sensors embedded in your groin for heightened sexual pleasure! Transhumanism tempts us to chase ever more exotic experiences. But where is this likely to lead?

> What Orwell feared were those who would ban books. What Huxley feared was that there would be no reason to ban a book, for there would be no one who wanted to read one. Orwell feared those who would deprive us of information. Huxley feared those who would give us so much that we would be reduced to passivity and egoism. Orwell feared that the truth would be concealed from us. Huxley feared the truth would be drowned in a sea of irrelevance. Orwell feared we would become a captive culture. Huxley feared we would become a trivial culture.
>
> (Postman 1985, p. vii)

Postman's book was titled *Amusing Ourselves to Death*. Transhumanism updates the goal to entertaining ourselves for all time—a technologically enhanced version of hedonism. To those who ask, what else is there? Quaint as it may sound, there's a life where one pursues virtue rather than pleasure, which then provides its own distinctive type of satisfaction. Sensuous pleasures are a source of delight. But when they become the central goal in life, we are living a life fit for pigs.

To be sure, transhumanism's hedonism isn't of the slacker variety. It's energetic, closer in orientation to the hacker ethic. To "hack" originally meant to gain unauthorized access to data in a computer system. Today the term comes close to defining the spirit of our age. Fuller and Lipinska (2014) promote a version of this in their account of the proactionary principle: life should be an unending churn, first in science and technology, then moving into economics, politics, religion, and culture. Your life becomes a hack—although more commonly it's hacked by others.

Hacking is sometimes framed in terms of social justice. True, it can help dismantle systems of oppression—thus the term "white hat" hackers. One often hears praise of the hacker ethic. In his 2018 commencement speech, MIT President Rafael Reif encouraged his new graduates, "After you depart for your new destinations, I want to ask you to hack the world—until you make the world a little more like MIT." It's quite a thought: brainy scientists and engineers work obsessively to develop new technologies, with little attention given to the larger societal effects of those inventions. Except it's the world we already live in.

Disruption has its good points. A bit of hacking or free-form trouble-making gives spice to life. Comedy is disruptive, as any fan of Robin Williams or the Marx Brothers knows. Hacking provides small—and occasionally larger, depending on your views of Edward Snowden and Julian Assange—victories over the authorities. It gives pushback to the injustices that flow from our corporate titans, themselves enabled by science and technology. Hacking is the shadow created by the overwhelming brightness of technoscientific progress. But now it has become integrated in the mechanism itself.

Granting, then, that hedonism lies at the basis of most transhumanism, this chapter explores the more serious side of transhumanism. For in some cases its attraction is religious and metaphysical rather than hedonistic in nature. Transhumanism then comes as theology cloaked in the garb of science and technology, or science and technology in the service of metaphysical ends. In Christian terms, technology becomes the vehicle by which humanity achieves the resurrection. Rather than simply being an instrument for our amusement, transhumanism becomes a project whose aim is the transcendence of the self.

At the beginning of this work, I divided a critique of transhumanism into two elements: the social-political and the metaphysical-aesthetic. Ultimately the distinction breaks down: the discussion of Arendt involved both aspects, as did our reflections on Nietzsche. The lack of a larger meaning for our lives is the source of social and political unrest and a problem in its own right. In this and the next chapter, however, the focus shifts toward the metaphysical.

There are various ways to divide the matter. For instance, the issues raised by transhumanism can be described in terms of the accidental and necessary and the communal and existential. "Accidental" indicates all those issues surrounding transhumanism that don't *have* to occur but are likely to. For instance, that enhancement will be restricted to the millionaires and billionaires among us isn't necessarily the case; it's just what's likely to happen. Similarly with the development of AI. It doesn't have to be used to create a surveillance society; that's just the likely outcome. (Some would say that this is already the outcome.) On the other hand, it's necessarily the case that if people live significantly longer, or no longer die at all, we will have to curtail births or watch the population explode.[1]

As for the other pair of terms: the communal can be taken as denoting the sense of belonging that eases the anonymity of life in mass society, while the existential points toward the embodied and singular nature of each of our lives. Both terms highlight the loneliness and anonymity that have been exacerbated by our increasing dependence on virtual "communities" like Facebook, as if our physical existence is simply packaging or meatware. The existential element of our life reveals itself in the unique character of our personal experience and the meaning-giving nature of our own mortality.

The intuition I want to flesh out is that there's a distinction to be made between amelioration, or improvement, and transformation. That it is not only ill-conceived but also self-defeating to pursue the massive expansion of human capacities. Such a project, aka transhumanism, is likely to lead to explosive social inequalities, social unrest, or a radically dystopian future. But even if social outcomes like these can be avoided, transhumanism raises concerns about how we find meaning in our lives.

This does not mean that I'm arguing for stasis, much less for the prelapsarian past. What can be made sense of, and I believe justified, is the pursuit of "a little more." This is the space between the status quo and the desire for infinity. This is to seek more time, while accepting our finitude, to pursue progress, but at a humane pace. It's the distinction between a laudable extension of our current life and abilities versus the pursuit of the incalculable.

But won't this inevitably lead to calls for a little more, and a little more again, taking us eventually to the same result—infinity on the installment plan? To this I have two responses. First, as I will argue below, infinity—immortality—is a red herring: the idea cannot be made sense of. Second, even radical transformation may be fine if the process is spread out across a long enough period of time. The point turns on the question of pace. Progress is desirable, but let us decelerate the pace of these advances to the point where society has a better chance of absorbing them. Change should come at a speed that acknowledges people's adaptive capacities. Attempting to live life at the speed of electrons—a task that we will inevitably fail at—leads to anomie, reaction, nihilism, and the likelihood of massive societal tragedy.

One final thought before turning to these topics. To guard against the belief that the turn to metaphysics means the argument here will become less practical, I offer a few words on the term. The expression is notoriously difficult to define, and is subject to misinterpretation, so much so that Martin Heidegger, whose views I am in part following here, eventually gave up on the term. "Metaphysics" dates from the century after Aristotle, when an editor labeled the 14 books dealing with first philosophy as "the books that come after the physics"—*Ta meta ta phusika*. It came to mean Aristotle's concern with first causes and those things that do not change.

I do not mean it in this sense. Nor do I mean it in the sense of contemporary analytic metaphysics, with its focus on questions surrounding universals and particulars and personal identity.[2] And it should go without saying that I'm not using it in the popular fashion, quartz crystals and pyramid power and all that. My perspective is rooted in the tradition of existential phenomenology, with its focus on our lived sense of how reality shows itself to us.

Heidegger embodies this approach from the first page of *Being and Time*, where he frames his discussion in terms of the *Seinsfrage*. The phrase literally means the "being question," but Heidegger unpacks it as the question of the *meaning* of being: "*die Frage nach dem Sinn von Sein*." By connecting being with meaning or sense (*Sinn*), Heidegger makes a basic phenomenological point: our experience of reality is oriented in terms of meaning. Things *are* in terms of structures of meaning.

Even if we declare, as people often do, that science has demonstrated that the universe is "really" meaningless, such accounts are derivative upon our experience of life as meaningful. Look at how we live: we thrill to great music, grow angry at injustice, and are sorrowful at a child's injury. Similarly, the scientist seeks to cure a disease to lessen human suffering and the businessperson starts a company to pursue personal desires or to serve a social need. What does it add—or subtract—to say that such meaning-seeking is subjective? Even when Carl Sagan claims that life is a random event, and the universe is cold, unfeeling, and indifferent, he is still framing his account within the discourse of meaning and non-meaning. We are, inevitably, meaning-seeking creatures.

Even when it's not seen as crystal magic, metaphysics suffers from a bad rap for addressing questions that soar above the concerns of practical people. Heidegger challenges this view. It's been considered a truism for some time that human nature consists of *Homo economicus*, that we are motivated by practical concerns for money and possessions. Such an opinion testifies to the human capacity to be distracted from one's own deepest experience. Everyone knows that family and relationships and contributing to one's community lie at the center of life; it is a sign of what Heidegger called our fallenness that we so easily slip from these core truths to lesser things. Having lived through the horrors of World War I, Heidegger was brought back to the realization that questions of the meaning of life and human suffering were the most central and practical of all.

2

> His ugliness was the stuff of legend. In an age of affordable beauty, there was something heraldic about his lack of it.
>
> —William Gibson, *Neuromancer*

The logic of transhumanism seems straightforward. We are born with imperfections. We then suffer from any number of maladies. In the normal course of things we get sick, weaken, and die. Everyone views these afflictions as a tragedy, although less so for the elderly; transhumanists view them as an *unnecessary* tragedy, and bend their efforts to overcome them. And who could object? Everyone rejoices at the eradication of polio, at advances in medicine that made childbirth safer, and at the various medicines and interventions that have made our lives longer and healthier. Rather than pausing, we should work to overcome other sources of suffering.

But the transhumanist project does not stop at amelioration. It not only calls for the elimination of diseases, but also the redefining of aging as a disease. Not only glasses or eye surgery to correct near-sightedness, but the sharpening of vision beyond 20/20 or the replacement of the eye with a sensor. Transhumanism moves from therapy to not merely enhancement but transformation. What's more, its ambitions are global in scope: in pursuing super-longevity, super-intelligence, and super-healthfulness, transhumanism seeks to overcome *all* of our limitations. Although there is a clear divergence in the sought-after ends: some transhumanists wish to change our simian body, while others want to dispense with it altogether.

Transhumanists claim that the distinction between therapy and enhancement cannot be maintained. There are certainly cases when it's difficult to separate the two: does the blood pressure medicine lisinopril simply restore a previous level of function, or is it an enhancement that overcomes the normal aging process? But the distinction remains operative, given the ambitions of the transhumanists. Raising someone's IQ by 50 points clearly counts as enhancement, if not transformation.

Julian Savulescu (2009) argues that we have always engaged in techniques of enhancement. For what else is education, and physical training? Transhumanism simply makes the process more efficient:

> Why should we allow environmental manipulations that alter our biology but not direct biological manipulations? What is the moral difference between producing a smarter child by immersing that child in a stimulating environment, giving the child a drug, or directly altering the child's brain or genes? . . . There is no relevant moral difference between environmental and genetic intervention.
>
> (p. 421)

He's correct, of course, in terms of results. But it is an odd philosophical anthropology that gives no weight to the process of self-creation. On this view, the athlete who trains conscientiously for years experiences himself no differently from the one who takes steroids, the self-made woman feels no different from the trust-fund baby, and the pianist who spends

years mastering skills is due no more respect than the one who downloads her skill set from Amazon Enhancements.

Savulescu overlooks Marx's point in the *1844 Manuscripts*, on the role of labor in the creation of a self:

> In my production I would have objectified my individuality, its specific character, and, therefore, enjoyed not only an individual manifestation of my life during the activity, but also, when looking at the object, I would have the individual pleasure of knowing my personality to be objective, visible to the senses, and, hence, a power beyond all doubt.
>
> (Marx 1959).

This "individual pleasure" is lacking if our abilities and the resulting products and activities (e.g., playing the violin) are not earned through our labor. Savulescu leaves us alienated from ourselves, not via the processes of capitalism but by the gratuitous manner in which we have gained our skills. For our labors are not only a burden; they are also the means whereby we construct ourselves in the process of creating the things of our world. It is what Hegel meant by "the labor of the negative."

Piecemeal amelioration or improvement is one thing; systemic and total enhancement is something quite different. We are not diminished by the fact that we no longer suffer from smallpox, and we expect that life will be similarly improved when we are able to cure cancer, ALS, and Parkinson's. But these would be partial changes to our circumstances. Transhumanism wants to reach down into the central aspects of our self. Not that the self is static in nature; our sense of self changes across a lifetime. We can become markedly different as we gain or lose abilities, through assiduous training or by suffering a physical loss. Having a child can be a transformative experience, as can the trauma of a terrible injustice. Transhumanism, however, seeks to tinker with the self with little forethought. It ignores the fact that the self is a continuum, from peripheral aspects to core qualities like intelligence or life span, that must be handled with care.

In her discussion of the transformation of the self, L. A. Paul (2014) distinguishes between being epistemically transformed, when new information gives us a vivid sense of what something is like, and personally transformed, when this information significantly alters our priorities, preferences, or self-conception. Transhumanists, however, are in pursuit of another type of change: ontological transformation, where we become a new being. They do not reckon with the possibility that the new you is no longer you.

Our limitations restrict our pursuit of well-being. But that is not all that they do. They also define who we are. You are an electrician rather than a physicist, while I am a philosopher but ignorant of tax law. The

point was emphasized by Spinoza: *omnis determinatio est negatio* (every determination is a negation). To be one thing precludes being any number of other things. If something is brown, by that very fact it cannot be blue or green. If you decide to become a physicist, you are not going to become a professional baseball player—or if you somehow manage to accomplish both, you are not going to also be a professional ballet dancer as well as a world-class oboist as well as a physical therapist.

But under the transhumanist dispensation, this changes. With super-intelligence, each of us will be able to know everything—or have everything downloaded into our brains. With super-longevity and super-healthfulness, we will have time to master everything and to become, if not everything, any number of things. These are points that transhumanists celebrate and use as a selling point for their program. But they also constitute a fatal flaw in their plans, the contradiction at its heart, the success that hold the seeds of its and our own destruction.

Western societies put a premium on individuality. This represents a problem for transhumanism, which has little attended to the Spinozist elements of its project. The transhumanist agenda implies the dwindling if not the end of individuality, as its modifications move people toward becoming identical types and interchangeable parts. For at their furthest extent, our limitations are not only accidental misfortunes. They are that; but at the same time, we *are* these misfortunes. They are woven into our very being; they make us who we are. In Gibson's *Neuromancer* (1984), people purchase faces from a small stock of movie stars and celebrities. As Gibson notes, in an age of affordable beauty, individuality consists in the rejection of infinite abilities and ideal forms.

In the *Science of Logic* (1831), Hegel offers a reductio ad absurdum of the goals of transhumanism. The *Greater Logic* begins with a thought experiment, the attempt to think of being without any limitations:

> Being, pure being, without any further determination. In its indeterminate immediacy it is equal only to itself. It is also not unequal relatively to an other; it has no diversity within itself nor any with a reference outwards. It would not be held fast in its purity if it contained any determination or content which could be distinguished in it or by which it could be distinguished from an other. It is pure indeterminateness and emptiness. There is nothing to be intuited in it, if one can speak here of intuiting; or, it is only this pure intuiting itself. Just as little is anything to be thought in it, or it is equally only this empty thinking. Being, the indeterminate immediate, is in fact nothing, and neither more nor less than nothing.
>
> (p. 59)

The attempt to think pure being without determination—in the vernacular of transhumanism, to have infinite life and infinite powers—is

devoid of content. Pure being turns out to be identical to pure nothing. As Hegel said of Schelling's philosophy in the *Phenomenology of Spirit*, it's the night where all cows are black. It's only through the mixture of being and nothing, what he calls becoming, that there is content to either being or thinking. Differentiation involves negation: a thing cannot both be white and not white. As Hegel notes in the *Science of Logic*, "the ground of becoming, the restlessness of self-movement, lies in the negative." The point is asymptotic: as we expand our powers we grow more and more alike. A world filled with universal geniuses would be a world that increasingly resembles the Borg.

Some will claim that I have this wrong. Rather than trending toward universal types, the expansion of our abilities will result in an explosion of diversity. People will mix and match body types; they'll choose different skin covers and colorings. They will enhance themselves with multiple sets of arms or eyes. Couplings will become multitudinous: why be limited to one set of sexual organs? Multiple penises and invaginations will make multiple orgasms possible. Sexual fantasies will find entire new domains to explore, as chimeras become common. Bestiality will cease to be a crime, since few of us will choose to remain entirely human.

But here the serious transhumanist has slipped his moorings. The point, we thought, was not to immerse oneself in sensuous pleasures but to know god. The transhumanist has abandoned his theological commitments and has returned to the world of Huxley's feelies. On the other side, if one is serious about their theological impulses, they will be driven toward Hegel's point. For oneness with god is not something multiple. The transhumanist, then, has a choice: embrace a life of endless entertainment, with all its gaudy diversity, or recognize that transhumanist theological desires moves us toward the One of Parmenides.

3

> They had reduced themselves to Motion in a universe of Motions, with an acceleration . . . of vertiginous violence.
>
> —Henry Adams, *The Education of Henry Adams*

The language of philosophers—here Spinoza, Hegel, Marx, and Heidegger—is abstract. But when philosophy works as it should, these abstractions are a response to our lived experience. To complete its mission philosophy then needs to return to our most existential concerns. For Hegel, the movement of determinate negations consists of something more than mere woolgathering. In the preface to the *Phenomenology*, he anticipates the criticisms I have made of Savulescu: without "the seriousness, the suffering, the patience, and the labor of the negative" our experience "lowers itself into edification, even into triteness."

Legend has it that Hegel finished the *Phenomenology* in the shadow of Napoleon's armies. But the power of the negative does not only consist of the turmoil attached to world historical events. Activity consists of a constant process of overcoming, the destruction of one object or situation in the process of creating another. Even the most common moments of our lives exemplify Hegel's trope: in the craftsman's work, where the tree is both annihilated and preserved in the process of building a cabinet, and in the chef's labors, where the ingredients of the garden are blended into a meal. We say no to the world to utter an even greater yes. This is the point of Schumpeter's "gale of creative destruction," itself borrowed from Marx, who turned the Hegelian dialectic on its head to map the evolution of society. For Marx, the periodic crises of capitalism came about not via external factors, but rather were intrinsic to economic processes: "the violent destruction of capital not by relations external to it, but rather as a condition of its self-preservation" (this from the *Grundrisse*[3]).

None of this will come as a surprise to transhumanists. They often embrace Hegelian language. They simply want to apply the *Aufhebung* to our biological and cognitive qualities: our "best features" are to be reconstituted and purified. What those features consist of is not a matter of debate. The mind, for instance, is a computational device rather than an organ that cultivates compassion toward others, or is disciplined through the hard work necessary to acquire a skill. Transhumanists are maximal capitalists, treating not only nature but also our own bodies and minds as raw material. Scientific discovery and technological innovation are the means for achieving this vision. The transhumanists are acolytes of Nietzsche's Will to Power: these means have become their own goal, the augmentation of power the end in itself. It is a metaphysics of intervention and manipulation and an exercise in world making. With everything—including our own cognitive characteristics—turned into a standing reserve, all that's left is a ghost self, a deracinated Cartesian awareness spectator to its own manipulations, hungering for more.

Transhumanists make explicit the practical metaphysics of our time. The qualities of being human that they ignore are those that have already been marginalized by our culture, the "soft" side of the equation. Progress once consisted in the development of virtues such as courage, selflessness, seriousness of purpose, and solidarity. These topics are now relegated to Sunday morning homiletics that are ignored by the afternoon, or to the sleepy lectures of humanists—at least those remaining who still embrace traditional themes rather than having been converted to identitarian concerns. But even they rarely get down and dirty with the existential concerns of our time.

Admittedly, improving people's character isn't rocket science; it's much more difficult than that. Technical approaches, while a challenge, are usually susceptible to the industriousness of engineers; in any case, they ask little of the rest of us. Society has taken the path of least resistance:

questions of morality are privatized, as scientists and engineers supply us with a steady stream of amusements that allow people to go their own way. As a result, we lead increasingly solipsistic lives: on the trail or a city street, you are surrounded by inward-dwelling denizens, earbuds implanted, quietly inhabiting a world of their own.

The question concerns the pace of societal change. Transhumanists see it as accelerating, and want to push the process further along. But so do many others. "For the most part, researchers have assumed that innovation is good. . . . Rarely if ever is not adopting an innovation considered to be a possibly important, adaptive strategy" (Kimberley 1981, quoted in Godin and Vinck 2017). As Godin and Vinck note, it's a contemporary truism that "innovation is the panacea to every social-economic problem." And by innovation one means *technological* innovation: few suggest that, rather than giving each student an iPad, we should provide K-12 students with opportunities for Buddhist practice along with an account of desire in late capitalist society. In a culture that prides itself on disruption and out-of-the-box thinking, this is one disruption that's unwelcome. The side effects of acceleration—high-frequency trading that can destroy a company or crash a market by computer algorithm in a matter of moments, or the delivery systems of intercontinental ballistic missiles that have reduced the time for making crucial decisions to minutes (thank goodness for Stanislav Petrov)—are treated as unfortunate externalities. They are no reason to question the acceleration of social life.

One finds comments concerning the harried quality of life in the early 19th century. These were repeated at the end of that century. In *The Education of Henry Adams* (1907), Adams noted: "since 1800 the forces and their complications had increased a thousand times or more . . . at the rate of progress since 1800, every American who lived into the year 2000 would know how to control unlimited power." Adams saw this as an immutable principle of contemporary life; he named it the Law of Acceleration. From the fact that these protests repeat themselves at each new level with each new generation, it's concluded that there is no norm for the proper pace of cultural change. Call it the shifting baseline syndrome: we're born into a pace of change that seems unbelievably fast to our elders; the process is then repeated as we age. But the fact that the speed is constantly ratcheted up doesn't constitute a defense of the process. I will argue in Chapter 8 that we possess natural characteristics that should preclude the endless speeding up of every bodily function or social interaction.

The dominant view, that things will and should continue to speed up, has been codified by a group who call themselves accelerationists. Recognizing that the governors are off and the guardrails are gone, they embrace the inevitable and call for both technology and capitalism to be massively intensified, "either because this is the best way forward for

humanity, or because there is no alternative" (Beckett 2017). They view accelerationism as the default assumption of culture: "Like it or not, we are all accelerationists now" (Shaviro 2015). Transhumanists, of course, are part of the clan, a point Kurzweil makes plain by subtitling his blog and website "accelerating intelligence." Accelerationists come in varieties of left and right, but the main idea of accelerationism is that "there is something emancipatory in participating in this speeding-up process" (Willems 2014).[4]

There has been some pushback. Counter-movements include the increasing popularity of yoga, the slow food movement, founded by Carlo Petrini in 1986, and the slow travel and slow everything movements. There's even a book called *The Slow Professor* (2016). But these responses haven't come together in a political program of deceleration, much less one that sees the root of the problem as lying in science and technology.

Ivan Illich embodies this point of view: in *Tools for Conviviality* (1973), he asks whether there is a mean to our technologies, a point where costs surpass benefits, at which point we should break with the habit of continual technological improvement. By 1973 Illich had asked whether medicine had passed a tipping point, where enormous sums were now being spent to keep people subsisting with a diminished quality of life. In *Energy and Equity* (1973), he raised a similar point concerning transportation:

> The model American male devotes more than 1600 hours a year to his car. He sits in it while it goes and while it stands idling. He parks it and searches for it. He earns the money to put down on it and to meet the monthly installments. He works to pay for gasoline, tolls, insurance, taxes, and tickets. He spends four of his sixteen waking hours on the road or gathering his resources for it. . . . The model American puts in 1600 hours to get 7500 miles: less than five miles per hour. . . . Man on a bicycle can go three or four times faster than the pedestrian, but uses five times less energy in the process.
>
> (p. 18)

Thoreau raises the same point in *Walden*, when he asked about the fastest way to get to Boston: the Fitchburg railroad or by walking. A similar set of calculations led him to conclude that it was the latter.

In *The Rise and Fall of American Growth* (2016), Robert Gordon claims that the age of rapid technological innovation and economic growth is over. The major, life-transforming inventions (sanitation, air-conditioning, etc.) are behind us: once the lightbulb was invented, the darkness was permanently banished, and we are now left with incremental changes (e.g., LED bulbs replacing incandescent). The argument is implicitly the same as Arendt's: once we address the fundamental needs

of the human condition, material and technological progress is largely over. "The 1870–1970 century was unique: Many of these inventions could only happen once, and others reached natural limits" (p. 641). The major exception to this consists of "entertainment, communications, and the collection and processing of information." But Gordon doesn't raise the issue of whether it is time to redefine what counts as progress, as the age of material progress draws to a close. Instead, his concluding chapter is concerned with "the potential for policy changes to boost productivity and combat the headwinds."

None of this is to deny the crying need to improve material conditions for billions around the world. As of 2015, perhaps a billion people around the world lacked electricity, and the World Bank estimates some 700 million still live in extreme poverty. UNICEF estimates that 1.1 billion people do not have enough to eat, and that childhood mortality from preventable causes for those under five still averages 15,000 deaths *per day*. But these facts, pressing as they are, do not affect arguments about limiting the development of science and technology. The opposite is the case: by ending our obsession with what are often trivial innovations (Microsoft Office 2016, anyone? The iPhone 8 Plus?) we can focus our attention, technoscientific and otherwise, on seeing that people have a basic level of well-being.

Rather than flogging the idea of techno-progress, it's time to pivot to a new understanding of progress. This could consist of two elements. The first would explore how deceleration would be worked out through various sectors of society; the second would provide an account of life in a culture no longer wedded to technological progress. Given our current societal structure, deceleration would send shudders through the economy, but this would not have to be catastrophic: our interests, and our purchases, could shift toward other needs. It should also provoke a conversation about our research policy, where the budgets of the National Science Foundation, the National Institutes of Health, and other research areas across government could be redirected or cut. This would send shock waves through the academy, which has grown increasingly dependent on government funding, and promotion and tenure requirements that incentivize publications would need to change. We might even drop the requirement that every PhD candidate discover or invent new knowledge.

In the marketplace, society could build in incentives to reverse the proliferation of varieties of toothpaste and every other kind of consumer product (at the checkout line at the local supermarket I once counted 80 different types of candy). These incentives need not be harsh; they could simply express a bias toward simplifying wherever it's possible. But it would require a change in our attunement and ultimately our metaphysics, de-emphasizing material progress and redefining our lives to attend more to family and friends and cultivating an attitude of care toward

each other and the creatures of the world. The point is not to stop progress, but rather to refine it to make it more substantial and sustainable.

For there are severe doubts whether our current situation *is* sustainable. In the view of astrophysicist Martin Rees (2003), the chances are 50–50 that current societal trends will end with the destruction of civilization sometime in the 21st century. The ideology of accelerationism pushes every boundary, raising any number of existential dangers (nanobots, climate change, artificial intelligence, nuclear proliferation, accidents, global epidemics, synthetic biology, etc.). Wouldn't it still be worth waiting a little longer to address one's sore knees to reduce that risk?

In *The Proactionary Imperative: A Foundation for Transhumanism*, Fuller and Lipinska declare that the goal of transhumanism is "the full realization of human potential." But as is common across the literature, the book begs its central question. There are vastly differing views about what constitutes human potential, but Fuller and Lipinska offer no survey of possibilities. They simply assume that the fulfillment of human potential is accomplished through the further advance of science and technology. In contrast, these pages offer a brief for slow thinking, and living, and for accentuating the pleasures of taking one's time. After such stunning advances over the last 100 years, it's time to rethink what counts as progress.

One hopes for more, and gradual improvements are welcome. But if one lives with care, 80 years is a long time. Some will see this as a brief for laziness; I prefer to view it as a matter of taking care with things. Dawdling with a child and attending to the unfolding of the day isn't "wasting time."

4

> Those who apply themselves to philosophy in the proper way are doing no more nor less than to prepare themselves for the moment of dying and the state of death.
>
> —Socrates, *Phaedo*

If to philosophize is to learn how to die, and transhumanism the project to end death, then transhumanism can be seen as bringing about the end of philosophy. Philosophy is a response to the vexed and ultimately tragic nature of life, its injustices and disappointments, the presence of evil, and the way time eventually strips us of all that we have. What need do we have for all of that, if our abilities are amazingly enhanced, and life stretches out infinitely before us? Philosophy also expresses the playfulness and joy of existence, deepens our understanding of the intricacies of our personal and political lives, and increases our appreciation of art,

nature, and human goodness. Transhumanism does away with all this, too. De facto hedonistic in outlook, it pursues pleasure rather than joy.

In the *Phaedo*, Socrates claims that philosophy is concerned with preparing for one's death. In one sense this is incorrect: to think about issues concerning truth, beauty, or justice isn't to prepare for dying. Socrates'—not necessarily Plato's—reply is that one needs to look away from the muddle of everyday life, the distracting body sensations, and the errant perceptions, and toward ideal types. The body is a distraction, the prison house of the soul; release from its containment allows us to focus on essential things. Death, then, isn't really "death" but rather something more like freedom to contemplate the real.

Ironically, by that definition some transhumanists are in pursuit of death. There is a cohort of transhumanists who can't wait to be rid of the body. They acknowledge the need for some type of material substrate, perhaps a super-fast supercomputer, perhaps merging with artificial intelligence. But the details are inconsequential. The important stuff happens on the level of consciousness; the body is an imposition. Perhaps some in this subgroup seek something more than hedonism; perhaps their goal is something like thought thinking itself. But it's more common that the aim is self-stimulation.

Other transhumanists want to retain our simian form, but with upgrades. This gives us the four-square of transhumanism: life as either enhanced or infinite, and either uploaded or lived in meatspace. But two of the squares make no sense. Discussions of immortality suffer from both an equivocation and a confusion. Sometimes transhumanists talk about improving our abilities and lengthening our life span; at other times, they describe their goal as the achievement of immortality. The absolute difference between these two points gets passed over, as if we can pursue various advances while holding out hope for the final dispensation. This skips over the infinite gap between a finite life, no matter how enhanced and extended, and immortality.

Accounts of infinite life or infinite powers always tilt on the edge of absurdity. As Hegel indicated in the passages quoted above, it's impossible to think what either would be like. When they speak of immortality, then, what transhumanists really mean is "a really long time." What else could they mean, when societies evolve, climates change, continents move, and the sun itself is finite? Put the point in another way: if we imagine for a moment that science and technology could somehow make infinite life possible, the result would be irrelevant to us. For whatever entity would thereby be created, and whatever life it would live, it would not be a human life.

A human life without limitations is no longer human. Our personal identities and our social structures are built upon the assumption of our struggle against limitation. As a project in search of infinity, transhumanism isn't proposing a new and improved human; it's calling for

the destruction of humanity. Transhumanist talk of abolishing death is a red herring. But this hardly drains transhumanism of importance. It may yet constitute a new metaphysics by changing our relationship to temporality.

Death can mean things other than the transcendence of the body into the fullness of thought. *Being and Time* offers an account of the meaning of death that contrasts with the *Phaedo*. For Heidegger, to think of being in terms of temporality is to place yourself within the continuous coming-into and the passing-out of being. Heidegger places our own passing-out of being at the center of his account of meaning. Much has been made of his claim that *Being and Time* should not be taken as an ethics. But since he doesn't observe any of the normal divisions of philosophy, it's no contradiction to see his fundamental ontology as having practical import.

We shouldn't overlook the small deaths that are a constant part of life, the end of our childhood and youth, the completion of high school or college, and the closing off of our access to other, older worlds as our grandparents' and then our parents' generation pass from the scene. No transhumanist promise can overcome the inevitability of these. Heidegger focuses on the way that our being-towards-death defines us and even liberates us, making authenticity possible. Our time is uncertain, but certainly limited; and limited time means choices must be made. These choices express our priorities, where we stake our claims, and become who we are.

Transhumanism equivocates between two outcomes. The first is a notable expansion of our life span, our health span, and/or our capacities. Imagine the elimination of many or even all the infirmities of old age, and living a vigorous life until the age of, say, 90. This is outside most of our experience and would have profound effects, but it would be a set of changes that are within our experience. It's possible to imagine society adapting to these new circumstances, albeit after some significant effort. But now consider a second scenario of an entirely different temporal scope: a life that's double or triple our current life span. Then add to it the possession of abilities that are not merely rare—enhanced intelligence to the level of the smartest among us and physical capacities that are equally atypical—but are utterly beyond our current experience.

If the first case is conceivable, and I would add, desirable, the second case seeks to decisively alter our temporal horizon. Transhumanism would then constitute a revolution in the human condition. Heidegger states his thesis on the first page of *Being and Time*: "the Interpretation of *time* as the possible horizon for any understanding whatsoever of Being." We make sense of reality in terms of our understanding of the nature of time. For Heidegger, our relationship to being has a history: in different epochs reality revealed itself in different ways—the ideal forms of Plato's dialogues, *substantia* in medieval philosophy, objectivity for modern

philosophy, and as the will to power for Nietzsche and contemporary culture. Each of these senses of being presupposes an implicit understanding of the nature of temporality. In the case of Plato, the real stands outside of the ongoing Heraclitean temporal flow; for modern philosophy and science, the real consists of that which is timeless in another sense—that which, like the lab experiment, can be repeated on demand.

Heidegger would likely describe the changes in our experience of temporality caused by a transhumanist revolution as being too ontic in nature to be of much interest. Alternatively, he might view the transhumanist program as simply the apotheosis of the technologizing of being that he describes in *The Question Concerning Technology* (1954). When life expectancy went from 50 to 80 across the span of a couple generations, this hardly constituted a new moment in the history of being, and in that essay and elsewhere (e.g., the 1947 *Letter on Humanism*), Heidegger describes the process of turning all of reality, including our own bodies, into a standing reserve. But transhumanism does not merely propose to turn our biological resources into a reserve of materials for our manipulation. Rather, it intends to shift the parameters of the human condition. More than that: it seeks to remove the conditions on humanity.

Transhumanism promises a new type of life. It threatens to upset the arc of human life in ways that Heidegger didn't even consider as a possibility—not only that we may live for twice our current life span, and bear children outside the envelope of time that has defined the childbearing years, but also the possibility of the perpetually rejuvenated self. Transhumanism promotes our speciation into two forms, Humanity 1.0 and 2.0, destroying the equality among humans that Hobbes places at the center of his political philosophy. These are much more than merely ontic shifts in the cultural landscape. By decisively changing our temporal span, transhumanism shifts the horizon against which we live our lives.

Notes

1. Musk and Thiel talk of avoiding a "single-point failure," the extinction of human life on Earth, by establishing a colony on Mars. But this will be irrelevant to life on Earth. Talk of moving masses of humans off-planet is chimerical, given the cost per kilo of achieving orbit.
2. There is nothing inherently abstract about either of these issues. Both potentially raise the most existential of concerns. But this is not how analytic philosophy approaches these topics.
3. Martin Nicolaus, trans., *Grundrisse: Foundations of the Critique of Political Economy*, p. 667. www.marxists.org/archive/marx/works/1857/grundrisse/index.htm.
4. The Transprogressive Wiki (https://ieet.org/index.php/tpwiki), which no longer appears to be active, describes a spectrum of positions and places transprogressivism somewhere in the mean between bioconservativism and transhumanism.

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7 Envisioning a Medium-Sized Catastrophe

1

I have made only passing comments on individual transhumanists. This doesn't reflect a lack of regard for their work, but rather indicates my desire to focus on developing my own views rather than engaging in the back and forth of scholarly debate. For even when it does not descend into scholasticism or resume building, such debate can pay a penalty in terms of overall comprehension.

Of course, the difficulties also can run the other way: less scholarly accounts can suffer from superficiality. My strategy has been to focus on the larger implications of transhumanism and the ways that they highlight leading characteristics of science and technology. This has come at some cost, including accounts of the specifics of various transhumanist philosophers. That said, there are aspects of their views, as well of those who oppose them—a loosely affiliated group sometimes referred to as bioconservatives—that require some attention.

The transhumanist movement contains a number of philosophers: Nick Bostrom, Steve Fuller, Max More, David Pearce, and Julian Savulescu, among others. They rarely express interest in the metaphysical questions raised in the last chapter. Transhumanists tend to focus on matters of power and pleasure, and conversely on the dangers that might come from the pursuit of these goals. This is presumably the result of a shared (albeit tacit) assumption: question concerning the meaning of life are either pointless or has been answered. Our lives have whatever meaning we choose to give to them, and we are free to pursue our desires wherever they may lead.

Thus Pearce titles his 1995 book *The Hedonistic Imperative*, and in *Superintelligence* (2014) Bostrom centers on the nature of superintelligence and the evaluation of its possible downsides (e.g., extinction). Neither provides an account of how transhumanism would affect the human search for meaning. As I've noted above, this is the common conclusion drawn in our post-Darwinian world, where our existence holds no larger purpose and humans are a mere accident of evolution. Fuller

comes closest to being an exception here. But while his work (e.g., the 2011 *Humanity 2.0*) addresses theological questions surrounding transhumanism, it does so from a historical and sociological perspective rather than grappling with existential questions of meaning.

Whatever their differences in outlook, most important is the philosophical tradition that unites them: Anglo-American or analytic philosophy. This tradition has two outstanding features: the assumption of the preeminence of science, and the embrace of the institutional epistemology of the modern research university. The two points are intertwined but worth treating separately. The first is a contemporary commonplace, summarized by W.V.O. Quine when he claimed, "philosophy of science is philosophy enough." If this overstates the views of analytic philosophy, it still highlights the central role that science plays in its account of reality. This view is formalized in philosophical naturalism, the belief that philosophy must begin with the assumptions and methods embodied by natural science. As Papineau (2015) put it, "methodological naturalists see philosophy and science as engaged in essentially the same enterprise, pursuing similar ends and using similar methods." Philosophy becomes dependent upon and derivative of science.

If this point is so generally accepted that it hardly merits mention by transhumanists, the second point goes undiscussed because it seems to be scarcely recognized. Philosophers fail to philosophize about the effects their institutional housing has upon their philosophizing. Adam Briggle and I address this point at some length in *Socrates Tenured*, in our discussion of the role of the "department." Here I note that a crucial element in the creation of the modern research university was its redefinition of the role of the professor. Rather than the traditional goal of transmitting our cultural heritage, a new role was invented: the pursuit of research. Professors across the disciplines were now united by a commitment to the constant output of new knowledge.

This commitment required the creation of disciplines, for if the production of new knowledge was going to be made part of the regular work of the professorship, research would need to be divided and divided again. A "drive toward the small" became an academic imperative, because only a very few among the professorate could be expected to make grand discoveries. The imperative of infinite research also implicitly put the university on the path toward transhumanism, for the requirement of unending innovation de facto posits transhumanism as its goal.

As anyone who has made it this far knows, my argument takes its cue from an alternative tradition. Rather than embracing endless innovation, epistemic or otherwise, I understand philosophy as in important aspects perennial in nature. Progress is certainly possible in the sciences—indeed, that's the problem today; but the humanities have, or at least should have, a more nuanced relationship to progress. For much of the task

of philosophy and the humanities properly consists in raising perennial questions in contemporary situations.

I combine this appreciation of the history of philosophy with the perspectives of continental philosophy. In the words of Merleau-Ponty, continental philosophy focuses on those issues "that precede and exceed reason"—or at least, the notion of reason characteristic of the sciences. Continental philosophy sees our lived experience as being prior to the analyses of science. Science is not wrong, but it is derivative upon a more basic experience of the world.

From this point of view, it is the shared elements of transhumanist philosophers that are most relevant. To a first approximation, their outlook can be summarized as:

- The embrace of science as our account of the real;
- Viewing the world and everything in it as raw material for our desires;
- Seeing our bodies are mere housings to be improved upon or dispensed with as we see fit;
- Defining progress in terms of advancements in our material and technoscientific life;
- Treating aesthetics as a marginal element of the human condition; and
- Subscribing to the view that our desires and our actions have no inherent boundaries.

This chapter challenges these assumptions in ways that are similar to the views of other critics of transhumanism: Leon Kass, Francis Fukuyama, Michael Sandel, and Bill McKibben. These thinkers have sometimes been labeled bioconservatives—politically right-leaning in the case of Kass, more moderate or left-leaning in the case of the other three. In concert with these thinkers, my philosophic outlook owes more to the ancients than the moderns, gives weight to the value of prudence, and advocates a degree of deference to the givenness of things. Like them, I also believe it possible to identify a workable notion of human nature.

But there are also elements that distinguish my view from theirs. McKibben and I diverge from the other three by placing our concerns within the frame of nature writ large. With the others I share an orientation that might be cast as broadly phenomenological in nature. But again there are differences. Searching to describe his concern with the loss of human dignity, Kass offers what he calls the yuck factor, our intuitive response to developments that are "beyond reason's power fully to articulate." Similarly, Fukuyama identifies an irreducible collection of traits that distinguishes our humanity and labels the collection Factor X. And Sandel finds a notion of limit in the idea of giftedness, which he acknowledges as being rooted in religious sensibility. I do not share this

focus on human dignity and religion; my concerns with transhumanism are more ontological in nature. What's more, I've sought to provide a more thorough account of our lived experience via the phenomenological literature, and to frame my concerns in terms of a philosophy of nature, points that are developed further in Chapter 8.

Finally, I attach an importance to aesthetics, in both its metaphysical and social-political elements, that is foreign to the thinking of both groups. I take seriously Nietzsche's claim that aesthetics offers a response to the question of nihilism, and view aesthetic creations as a practical alternative to the bioconservative reliance on government regulation to limit the dangers of science and technology.

Previous chapters have explored the effects of science and technology on our cultural productions. I now focus on how science and technology, especially new media, has transformed the nature of politics. I also offer some additional thoughts on the metaphysical consequences of continuing the status quo. Concerning the latter, I view the boasts of the transhumanists as whistling past the graveyard, their bluster hiding an absence lying at the core of their thinking. This absence has a name: the specter of nihilism. Nihilism is the soft underbelly of transhumanism. Finally, I consider the possibility that a medium-sized disaster tied to science and technology could be the means for a decisive shift in our definition of the possible.

2

Technological determinism hangs over this book. It's said that technological development is going to accelerate, not so much through our intentional acts but as part of the unavoidable nature of things. I've called this a failure of will. But it also represents a breakdown in our social and political institutions. Technological progress is a virus that we've developed few defenses against, either personal or institutional. Altering the trajectory of technological advance lies within our power, but we need a better understanding of the circumstances that have placed science and technology in such a decisive cultural position.

I've suggested conceptual adjustments that can help us gain more control over technology. (Concepts are how we grab onto things, a point expressed in the German, where the word for concept, *Begriff*, shares the same root as *greifen*, to grasp.) Technology has become the functional equivalent of a drug, and should be treated as such. The addictive qualities of technology will only increase, and just as there is a lengthy procedure for the release of a new drug on the market, and a distinction made between over-the-counter versus prescription drugs, there should be vetting procedures for what we currently treat as harmless technological innovation.

Instead, our current approach is proactionary in nature—launch a new technology, and deal with its effects (or not) as they come up. Steve Fuller

defends this approach, claiming that we should push ahead with technological change, and mitigate any harms that result afterward. It's obvious, however, that there will be cases where the bell cannot be unrung. What if advances in artificial intelligence make it possible to manipulate a major election? (Oh, wait: that's already happened.) And even in those situations where it's theoretically possible to return to the status quo ante, technological innovation short-circuits democracy by presenting us with a societal fait accompli, where newly vested interests stoutly defend their rights before a community has a chance to weigh in.

We should also address our failure to distinguish between serious and trivial technological advance. There's remarkably little discussion of the fact that technology is increasingly used for trifling ends, to the detriment of our psyches, communities, and the environment. It was once a truism that the point of wealth was to free ourselves from the burdens that Arendt calls labor, so we could turn to the finer elements of human culture represented by the arts and humanities. This, however, implies the exercise of judgment about questions of significance. We no longer make such judgments. Our habitual response consists of one part subjectivity ("who are you to say what's a better or worse use of my time?") and one part libertarianism ("everyone should be free to do as they please"). The libertarianism, of course, is justified by the subjectivity. The loss of judgment is itself largely the result of laissez-faire technological innovation, which has made the exercise of control over our lives so difficult.

What can motivate individuals and governments to take seriously the possibility of slowing the technological juggernaut? I've claimed that it won't primarily be a matter of argumentation. Hegel was correct in describing philosophy as mostly a retrospective exercise; people are rarely moved by arguments on matters of central importance. (Arguments about scientific and technical questions are a different matter.) Then why write a book like this? Influence: philosophical reflection can inspire those capable of creating the images and narratives that can transform a culture. I also admit to the reverie that these arguments might come to the attention of a president or prime minister. One can always hope for the call from Washington or Brussels, Silicon Valley, Harvard, or the *New York Times*.

That said, art and politics are two of the main paths for prompting a shift in our outlook. In the end the two come to much the same: a transformation in attitude, whether motivated by artistic vision or a charismatic leader, occurs when we enlist people's emotions. We have been reminded recently that fear, anger, and scapegoating are powerful motivators, but more benign emotions can also have their effects. In contrast to the smallness often attributed to human motivations, we often thrill to the call to sacrifice. For all the suffering that was involved, many of those who lived through World War II reported that it was the happiest time in their lives. In contrast, rather than calling us to a larger purpose, transhumanism offers a song of self-interest.

There's another possibility for provoking change: the occurrence of a medium-sized catastrophe. "Medium-sized" is a relative term: I mean something that shakes our culture to its core, prompting the questioning of our fixation with technology, without being civilization- or species-ending. With so many things that could go wrong (nuclear or biological terrorism; the escape of an experimental virus; artificial intelligence out of control) there's an appreciable chance that eventually our number will come up. In fact, the danger may be greater if it does not. For then we risk a slow shrinkage, progressively losing our freedom and our humanity, as society evolves toward some combination of the nightmare scenarios traced by Orwell and Huxley. After all, the technological priors to the ideological controls being implemented in China, via required phone apps and social scores of one's patriotism, are in place in the West, too.

The first part of my argument on motivating change, concerning art, was sketched out in Chapters 4 and 5. There I traced the mechanisms that led to the demise of the Hays Code, the rise of Rambo and Dirty Harry as cultural icons embodying an aggressive libertarianism distrustful of community, and the growing depiction of violence and political dysfunction that's pervaded our cultural productions. Rather than seeing this as an autonomous shift in cultural outlook, I described it as largely the result of the multiplication of media sources, making anything like a Hays Code impossible to enforce. The libertarianism of our cultural standards has been driven by technological advances across the media landscape. It's given us a culture that no one voted for. In response, I suggested the reinstitution of limit, not via regulative censorship but through disapprobation and shunning—a cultural response to the havoc created by media technology.

I said then that these points would be revisited from the point of view of politics. Turning to this now, the growth of political polarization and fake news parallels my earlier account of technologically driven change in art and culture. The political impetus toward disinformation has always been present; it's the opportunities for such behavior which have multiplied. As we saw with the Hays Code, we are witnessing the short-circuiting of societal deliberation by technological advance.

This has been enabled by the marriage of the internet and artificial intelligence. This is most obvious in the campaigns of disinformation waged by Russia's Internet Research Agency using social platforms like Facebook and Twitter. But these are mere accelerants to a process that was the predictable outcome of the development of the internet. Web 2.0 is defined by the possibility of user-generated content: once the internet evolved to the point where anyone could post content, the conditions were created for the fracturing of political consensus. The dominance of a few media sources, represented by the status once held by CBS broadcaster Walter Cronkite, has been replaced by tens of thousands of sites

vying for our attention, which are incentivized to stake out as contentious a position as possible.

The ante was raised again by what can be called Web 3.0: the development of webbots, software programs that perform automated tasks on the internet. By some measures, by 2013 most of the traffic on the internet was fake. Twitter is filled with fake "individuals" who post at the behest of governments and industry, as well as by real users who can buy "followers" by the thousand. Chinese click farms consist of hundreds of phones that "watch" the same content to drive up numbers of views, and on YouTube perhaps half of the users are "bots masquerading as people" (Read 2018). The internet erases the distinction between real and fake: a real person, assuming a fake identity, has real effects on a country's politics, just as bots provoke real bloodshed by sowing antagonism between groups.

New media lies at the heart of the political crisis in the West. Concerns with how automation threatens social harmony notwithstanding, information and communication technology and the internet particularly strike at the essence of the nation-state. At its most basic, a nation-state is an entity occupying a physical space within which it exercises sovereignty. A nation-state defends a border from outside forces. The internet, however, does not exist in physical space. If Russia had attacked the physical territory of the United States, there would have been swift retaliation. But when the Obama Administration learned of cyberattacks in the summer of 2016, the response was muted. How certain was it that this was an attack by Russians? And did this really constitute an act of war? There is no inside and outside to the internet, which enables the instant flow of information across every physical boundary. As such, it and the globalized capitalism it makes possible are anathema to the nation-state.

As the leading edge of modern information and communication technology, the internet promotes the agenda of both elites and populists. It opens possibilities for surveillance that make it easier to control the masses: the GPS in our phones constantly records our location, just as our debit card tracks our purchases—information available to Google, Apple, Citibank, and inquiring governmental agencies. Counteracting these effects, the explosion of media outlets and means of communication make control over the population that much more difficult.

The internet has thrown the gears of government out of joint. In contrast to China, in the West libertarian populism seems ascendant. The truth is more complex: our freedom is simultaneously growing and shrinking in unprecedented ways. Poulos (2014) calls it the Pink Police State, where people have all the interpersonal liberty that they could want—i.e., sexual and consumer freedom—while suffering the progressive loss of political liberty. This mirrors the evolving state of the Chinese political system, which is likely to become the new political model for the West.

The future is liable to be both more and less ordered. The US Constitution was constructed to counterpoise the power of elites and masses. Social media has now created a feedback loop: new means of expression undermine the control of elites, opening the door to further populist disruption. At the same time, technological change disrupts the lives of the less advantaged; their anger is exploited by demagogues via social media, rendering the system still more dysfunctional. Billionaires who believe in their own brilliance rather than being winners in the technological lottery reject the notion of noblesse oblige, prompting another round of reactionary populism.

The US Constitution was designed by and for an Atlantic nation of four million, a sixth of whom were slaves, and who lacked our means of modern communication. Today even incremental political change is stymied by the existence of the Senate (California's two senators represent 40 million people, equaling the combined population of 23 states and 46 senators) and the presence of a presidential system where the election of the president is separate from the election of Congress. But these elements are at least in principle remediable; the larger problem consists of the demise of the 400-year-old institution of the nation-state. Since territory no longer defines a state, how do we decouple citizenship from territory? How do we devise global financial instruments and controls that match the global flows of capital? And how do we avoid the further establishment of a new type of authoritarianism, where our lives are controlled by unaccountable mega-corporations in league with the state?

The narrowness of the political choices now being offered bears little relation to the new realities we face. The US Green Party, ostensibly the source of a different political vision, offers a platform little different from standard-issue European left-of-center parties. Under "Ecological Sustainability" the party states that it shall "challenge the grip of the oil, automotive, and automobile insurance industries that have managed to block or roll back progress in public mass transit." A laudable sentiment, but consider the range of positions that are *not* part of its platform:

- Advocating the end of economic growth and the creation of a steady-state economy;
- Calling for the phasing out of the personal automobile;
- Placing limits to the square footage of personal homes;
- Supporting the goal of negative population growth;

This is to say nothing of positions that go beyond environmental concerns to challenge the dominance of technoscience:

- Advocating the creation of a windfall tax on winners of the technological lottery (e.g., Bezos), and calling for a maximum allowable amount of personal wealth;

- Advocating restrictions on scientific and technological research;
- Regulating the internet in order to preserve privacy.

Suggestions like these lie well outside the Overton Window. But for how much longer? Our political discourse exists within an envelope of possibilities that do not match the challenges we face. Climate change is the obvious example: all the future scenarios used by climate policy makers take continued economic growth as an unquestionable premise. But a number of recent papers (e.g., Schroder and Storm 2018) have argued that it's not possible to restrict the increase in global average temperature to 2 degrees Celsius above preindustrial levels under business as usual scenarios. Indeed, carbon emissions have tracked closer to the worse-case "representative concentration pathway" of nearly 9 degrees Fahrenheit. There will either be a radical technological breakthrough—say, the viability of carbon capture and sequestration—or a fundamental break with our assumptions concerning the parameters of our future alternatives.

Nonetheless, everyone assumes the continuation of the status quo. Andrew Revkin quotes Jesse Ausubel, Director of the Program for the Human Environment at Rockefeller University, who makes this assumptions clear:

> there is essentially little choice on a crowding planet to pursue technological solutions to feeding ourselves, shifting away from carbon-containing fuels, and otherwise limiting our ecological imprint. Human nature is probably harder to change than technology.
>
> (Revkin 2008)

Perhaps technology will come to the rescue for climate change. But it is scarcely a good bet that it will do so for all the challenges we face. We've found it easier to modify the world than to change our nature; now technology is offering us the ability to change human nature. That, however, will only address the technological aspects of the self—our mental acuity rather than mindfulness. We seek to increase our powers rather than our patience or our empathy, but we have not reckoned with the consequences of treating the self solely as an artifact of technology.

3

> *In the horizon of the infinite*. We have forsaken the land and gone to sea! We have destroyed the bridge behind us—more so, we have demolished the land behind us! Now, little ship, look out! . . . The greatest recent event—that "God is dead"; that the belief in the Christian God has become unbelievable—is already starting to cast its first shadow over Europe.
>
> —*The Gay Science #124*

Whatever happened to nihilism?

Nietzsche's account of the death of god was central to cultural critique for nearly a century. Section #124, just preceding the Parable of the Madman, summarizes his view of the challenges that lay ahead: a first shadow, then the coming of night, with a dawn to come. A questioning of and then a crisis of values, followed by their re-establishment on an entirely new basis.

Others (including Hegel) had noted the death of god (Pascal: "Le grand Pan est mort"). But it was Nietzsche who recognized that Western culture had come to a critical juncture. *The Origin of Species* marked the end of natural theology and the rupture of the connection between humans and the cosmos. Our purpose could no longer be found within natural or transcendent theology; values would have to be founded on a new basis.

This problematic maps onto the subsequent 80 years of cultural history in the West. It remained relevant through Spengler, Weimar, the Holocaust, and the concerns of the existentialists. Even as recently as the 1960s, the crisis of meaning was a matter of widespread concern. The meaninglessness implicit within a scientific account of the universe was sufficiently troubling to prompt the April 8, 1966, cover of *Time* magazine: "Is God Dead?"

But since then the problem of nihilism has lost its salience. It's not because our concerns with meaning have been answered. Rather, they have simply slipped from view. They are too gloomy, and they lack the ironic self-awareness that's so characteristic of our times. It's hard to concentrate on such concerns when there are so many amusements and distractions. Why trouble yourself about the meaning of life when there are so many great series to binge-watch on Netflix?

Heidegger (1977) notes that "the death of God and the rise of world technology are inextricably interrelated." But how are they related? The incessant growth of technology both expresses and exacerbates the forgetfulness of being. Rephrasing Heidegger's point in colloquial English, we've given ourselves over to trivialities. We spend our time discussing sports and celebrities and playing games; we are inundated by posts and texts and options for amusement, making it hard to focus on serious matters. And when such matters do force their attention upon us, we decline the work of rethinking our assumptions and changing our behavior; soon enough, a public figure will help us find someone or some group to blame. Technology provides ever more amped-up means for the pursuit of the ever-greater thoughtlessness about our ends.

If this seems a dismal take on things, note that I also side with Thoreau: "surely joy is the condition of life." And Nietzsche: "I would only believe in a god who could dance." It was Nietzsche who criticized the mournful tone of philosophers, as if being serious requires that we be depressed. And the artists I have offered as exemplars—Capra, the Marx

Brothers—expressed in the midst of the Depression what Nietzsche called *Die fröhliche Wissenschaft*.

To be troubled by nihilism means to be debilitated by the emptiness of our purposes and goals. Our commitments grow enervated as a larger rationale is lost. Addressing these concerns takes commitment and focus, difficult when we are immersed in the world that moves at the speed of light. Our civic lives, which require a slower pacing, have fallen into disrepair. It doesn't have to be this way. Our technologies could be directed toward simplifying our lives, lessening our distractions, and opening space for communal dialogue. But that would mean asking technology help carve out a space discrete from technology.

At the center of all our technological progress lies the same human being. For all our talk of enhancement, our *awareness* remains the same. The time needed to be moved by a work of art or to appreciate the view from Mather Point hasn't lessened; the same is true for working through differences in your and another's political opinions. Technology doesn't increase the efficiency of such activities; it only distracts us from the fullness of experience, through what Sherry Turkle calls "continuous partial attention."

Observe people at Mather Point, at one moment squeezing the Grand Canyon within the frame of their cell phone camera, the next posting the picture on Instagram. Watch the jostling and the selfie sticks on the boardwalks at Yellowstone. What's missing is what cannot be rushed. The patient attentiveness we marshal to comfort a friend isn't improved by technology, nor are there technological fixes to replace human sympathy—although some still call for the use of Japanese elder care robots. But some of our needs cannot survive being technologized.

The waning of our concern with nihilism parallels the rise of a hyperactive lifestyle. We've so many opportunities that there's little time left to think of first and last things. Ours is now an electronic universe, cell phones at the ready, through dinner, through a movie, and at our bedside—everywhere there is infinite opportunity. We forget how fast this has come about. The first iPhone was sold in 2007. For those with longer memories, it can feel like inhabiting a time warp. I remember playing gin rummy with my grandparents as a boy—this was the 1960s—with no TV, radio, or any other background noise other than the ticking of the kitchen clock. The game was played in silence. It was a little spooky, but also an impressive education in the solemnity of small things.

The speed of contemporary life affects things unequally. Some ways of being and thinking become prioritized over others. More efficient technologies are said to save us time, but time is never saved. The length of our days remains the same. Instead, after finishing a task more quickly, rather than savoring the moment we turn to squeeze in another task. We become desensitized to what's been squeezed out: care, patient reflection, and observance of the natural pace to things. Hyperactivity has become

the norm. Deliberation is rebranded as laziness, as we attempt to live our lives at the speed of the electron.

In *Crossing the Post-Modern Divide* (1992) Albert Borgmann describes our tendency to vacillate between hyperactivity and sullenness. Both result from our attempts to overcome the mismatch between our humanity and the speed of electrons. Of course, hyperactivity is intoxicating, at least for a while, and our sullenness is also rooted in our social conditions. But Borgmann doesn't note how the system is propped up by its ability to entertain—although he comes close in his description of "commodious individualism." The amusements pile up, but what would happen if they came to a stop? Without a steady stream of new diversions, the entire arrangement could collapse under its own weight. Nietzsche's and Heidegger's concern with nihilism could then regain its salience. Concerns with nihilism thus lurk in the background, ready to be reactivated by a glitch in the system.

Both Nietzsche and Heidegger saw nihilism as the central issue of Western culture. But they differed in their diagnosis and in their proposed solution to the problem. Nietzsche saw our crisis in meaning as rooted in the cultural revolution inaugurated by Socrates and Plato. He viewed Socrates as a decadent, responsible for the shift from art to philosophy as the dominant form of cultural life among the Greeks. Heidegger also located the roots of nihilism within Greek philosophy, but he framed the issue in terms of the forgetfulness of being. The problem lay in a misdirected rationality that devalued art rather than as an excessive dependence of rationality as compared to art. His account of the history of being described the rise and continuing dominance of the metaphysics that still possesses us today—that of science and technology, where everything is viewed as essentially the same, and nothing as sacred, rendering everything as available for manipulation. Nietzsche sought a way out of nihilism by ecstatically embracing the power of art, while Heidegger's thought ended in quietism and a hoped-for a return of the Gods, who would provide us with a new dispensation of being.

Bostrom rejects the idea that Nietzsche is a precursor of transhumanism: "What Nietzsche had in mind, however, was not technological transformation but a kind of soaring personal growth and cultural refinement in exceptional individuals" (2005, p. 4). But that's just the point: Nietzsche is relevant to transhumanism because he highlights the inevitable failure of its project, where the evolution of humankind is reduced to a technical exercise. Nietzsche is interested in the re-evaluation of *all* values, including the value of technologizing being. He reveals the dogmatism lying at the root of transhumanism.

Nietzsche's thinking is aphoristic and unsystematic in nature, not through a failure of thought but because of his suspicion of philosophical systems. The world is simply not that logical; too often, philosophers sand off rough edges and construct too tight corners. Nietzsche links up with

transhumanism on a number of points, both in support and critique; it's possible to see Nietzsche as the first transhumanist, *avant la lettre*. But with Nietzsche, transhumanists will have to take the good with the bad. He describes us as rarely being aware of our own intentions. Pronouncements concerning the motivations and goals of transhumanism are not to be taken at face value. Transhumanists claim that the benefits of technoscientific advance will be equally distributed. But what's the point of being special if everyone else is?

On the other hand, Nietzsche's notion of the Will to Power should resonate with Kurzweil and kindred spirits. Rationality operates in the service of our desire to continually "grow, spread, seize, become predominant—not from any morality or immorality but because it is living and because life simply is will to power" (Beyond Good and Evil, 259). This is a reasonable précis of the goals of the transhumanists, who like Nietzsche see no end to the augmentation of our powers. Nietzsche summarizes these goals in his concept of the Overman (*Übermensch*). He saw humanity as being at a transitional stage. As Zarathustra announces early in the text by that name,

> Mankind is a rope fastened between animal and overman—a rope over an abyss. A dangerous crossing, a dangerous on-the-way, a dangerous looking back, a dangerous shuddering and standing still. What is great about human beings is that they are a bridge and not a purpose.
>
> (Nietzsche 2006, p. 7.)

It's difficult to get more transhumanist than that.

Our crisis of values didn't begin with the smartphone. Heidegger locates its roots in Platonism, the creation of a dual world. The death of god implies the breakdown of the metaphysical dualism that founded western thought, the world of sensation and the supersensory realm of ideas. But if we wipe away the latter, what happens to the status of the former? Nietzsche's Zarathustra calls for us to be "true to the Earth," but this is a call to embrace the Dionysian nature of existence rather than environmentalism. In contrast, my appeal in the next chapter is to nature in the sense of Paul Shepard's *Nature and Madness* (1982): our consciousness evolved in concert with the natural world, and both sanity and satisfaction lies in being attentive to its rhythms.

It seems likely that for Heidegger, transhumanism would represent the completion of the technologizing of being: not only treating nature as merely an instrument to satisfy our desires, but instrumentalizing ourselves as well. If we ask, a tool for what? We come face-to-face with the emptiness of transhumanism. We are led to Heidegger's reading of Nietzsche, where he saw the Will to Power as the completion of the tradition of Western metaphysics. Western thought culminates in the

domination of the scientific and instrumental rationality that underlies machinery, bureaucracy, and the structures of modern life, and now our treatment of our body and our very consciousness. Technology first appeared as an instrument in the hands of humanity that aimed at the subordination of nature to human desires. But humanity now finds itself subject to the forces it had loosed upon the world. Technology ends not in the liberation of man from nature but in the subordination of humanity to the technological drive itself. While presenting itself as the fulfillment of freedom and pleasure, transhumanism represents the completion of Western metaphysics as nihilism.

4

A shift in the Overton Window rarely occurs via philosophical argument. Rather, it occurs via art, politics, or a medium-sized catastrophe. Concerning the latter, let's set the possibilities of earthquake and asteroid impact to one side, which would strike most people as random events. A medium-sized catastrophe caused by science and technology could occur in any number of ways. Something could go wrong in our efforts at genetic manipulation or do-it-yourself biology, or in artificial intelligence, or through the fulfillment of our fears concerning endocrine disruptors, nanotechnology, information and communication technology, nuclear power or nuclear waste, or climate change. (This of course is not a complete list.) I'm not concerned with the details of how any of these could happen, or even with how likely any such event might be. Any estimates of likelihood will be inescapably speculative in nature. The point is that any of these are possible, and perhaps even likely, given the pell-mell development of science and technology.

By a medium-sized catastrophe I mean an event that causes a shock to society sufficient to reset cultural attitudes without destroying that society. Consider some historical analogues. The plague of Athens, described by Thucydides, occurred during the second year of the Peloponnesian War (430 BCE). The disease, perhaps typhus, caused major changes in social mores, including a fall-off in religious belief, and Athens suffered a permanent decline in power and prestige. The Black Death offers another example. Visiting Europe from 1347 to 1351, and serving as background to Boccaccio's *Decameron*, it is estimated to have killed perhaps half of the population of Europe. It took 100 years for the European population to reach its prior level. Spurred by rumors that the mass death was caused by the poisoning of wells, Christians destroyed entire Jewish towns, and the reduction of population led to increased social mobility and better living conditions for the peasantry.

Perhaps a more relevant comparison to our own situation is the Great Lisbon Earthquake of 1755. It struck on All Saints' Day and killed tens of thousands, many of whom were attending church at the time it

occurred. Voltaire wrote a poem on the event, and it became a turning point in discussions of theodicy and for the development of Enlightenment thinking generally. And while it becomes harder to judge events closer to our own time, more recent possible examples include World War I and the Holocaust.

By way of definition, a medium-sized catastrophe is bookended by (mere) disasters on the one side and civilization-ending events on the other. Such designations are inevitably vague, and how great of a cultural effect is necessary to qualify as one or the other will be subject to interpretation. Perhaps the London Blitz and 9/11 can be offered as examples of the former—stunning events, certainly, but perhaps ones that did not fundamentally reshape a culture. On the other side, consider the effects of the conquistadors Pizarro and Cortez on the civilizations of the Incas and the Aztecs. In both cases a large population survived the destruction, but the culture itself was destroyed.

Location and duration will be important. A financial meltdown in London caused by computerized trading will receive more attention than if the same thing occurred in Mumbai. A plague that escaped from a lab will get both more and a different type of attention in New York City than in Santiago or Nairobi. In the latter cases, if scientists are held accountable, the occurrence in a less developed country will make it be easier to blame the disaster on the supposed incompetence of the scientific personnel. Conversely, if the event is connected to a world-class facility, it is more likely that science and technology generally will be placed on the docket. An event that lasts for an extended period, and whose results are uncertain but involve elements of the apocalyptic, would have greater cultural resonance. A death toll of 10% or 20% of the global population through an engineered virus that goes out of control would likely be sufficient to cause widespread cultural re-examination, but perhaps the number of deaths could be much lower, given the propensity of modern media to hype events.

The magnitude of the effects will greatly depend on the interplay of appearance and reality. There must be a degree of objective reality to the catastrophe in terms of lives lost, economic losses and/or a rise in unemployment and/or environmental damage. But the *meaning* of these effects will be contested. Competing interpretations of the event will vie for dominance, both in terms of causes and about who or what bears responsibility. For instance, the cultural impact may differ widely if the technological breakdown is seen as rooted in a political failure, or was simply the result of chance, whether blame can be laid at the feet of one or a few individuals, or whether an entire class is seen as responsible.

That said, part of what defines a medium-sized catastrophe is that it exceeds the capacity of being encapsulated by standard cultural tropes. It involves a shock to the system so great that it reveals the inadequacy of standard narratives and overwhelms most attempts at spinning. Such an

incident would be so striking that it would seem to have an artistic element to it, and to function as a metaphor for life itself. The catastrophe would unfold in ways that mimic the order and concision we normally ascribe to art. At the same time, while being unprecedented it would also awaken classical accounts (e.g., the Black Death) and dominant motifs (e.g., the Frankenstein myth) from our culture.

The most uncanny possibility of all is that such a catastrophe may have already occurred, but its consequences have yet to reach us:

> This prodigious event is still on its way, and is travelling,—it has not yet reached men's ears. Lightning and thunder need time, the light of the stars needs time, deeds need time, even after they are done, to be seen and heard.
>
> —*The Gay Science* #125

Both climate change and artificial intelligence may have already passed a point where mass disruption is inevitable. It's naïve, however, to believe that a shock to our culture would necessarily drive us toward a more restrained relationship with technology. A disaster caused by science and technology will lead some to argue for . . . more science and technology. For some, nothing addresses the excesses of technology better than more technology.

What can one say in the face of these possibilities? One would hope that "forewarned is forearmed," and that it would be possible to engineer a degree of resilience into the social system. That's the point of works like this. After all, no one wishes for a tragedy. One hopes that prudence and self-control can step in before catastrophe strikes. Perhaps it's possible to influence events in a positive direction. We've had a long adolescence; perhaps, like Prince Hal, we can rise to the occasion when the need presents itself.

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8 The Consolations of Geology

Six thousand feet beyond man and time.

—Nietzsche

1

Hoback, Wyoming, consists of a mixed assortment of homes spread at the feet of the Gros Ventre Mountains. Wikipedia puts the population at 1,176, a number that seems high. The town of Jackson ten miles to the north is stuffed with money, but this corner of Teton County is middle class. My neighbors are electricians and carpenters, the occasional architect or store owner, some retirees. We lucked into our place in the backwash of the 2009 recession, two bedrooms and 1,300 square feet perched above the Hoback River. The altimeter on my phone puts the elevation at 5,940 feet.

Across the river, Rogers Ridge rises 800 feet above us. In December the sun doesn't clear the top until 10:15 a.m. It's important to time the woodstove right, for otherwise I'll be opening windows. To the east, the river runs straight for a half mile before disappearing in meanders. During warmer months kayakers and rafters come down in candy-colored flotillas. In the distance, Cream Puff Peak edges the sky. In the other direction, the Hoback joins the Snake 100 yards downstream. It then flows 20 miles through the Snake River Canyon before reaching the hamlet of Alpine, Wyoming.

A bridge crosses the river just below us. Until last year it was a one-lane, World War II surplus, "temporary" bridge; now we have a spec-designed, steel-undergirded two-lane structure. The road ends at a gate two miles to the south, so there's not much traffic. Since the road is wedged between the Snake River and Rogers Ridge, there's also little room for further development. A half dozen homes are visible from my deck, although they're obscured by spruce. Power lines cross the view, and an electrical substation lies just uphill. It's not pristine, but there's still the sense of a place where nature rules.

Wildlife is abundant. One sees and hears ospreys. The county has built platforms for them every so often along the roads, and there's a nest visible just beyond the substation. The ospreys dip into the Hoback and then rest 80 feet up a crooked tree at the edge of the river, one claw holding a branch and the other a wriggling fish. Deer stroll by with a look of "what are you doing on our property?" A red-tailed fox trots down the road and crosses the bridge before turning up the hill in front of me; I've seen him reverse the journey later in the day. In the spring white pelicans appear, summering here after wintering in Florida. I've seen 20 at a time. Bald eagles are about, as are ravens, chats, and hummingbirds, and neighbors tell of cougars that have run off with incautious dogs. Elk and antelope crisscross the hills to the north, and there was once a moose standing in the river just below me. A grizzly killed a hunting guide in the Gros Ventres this fall.

Our community is known, tongue slightly in cheek, as Hoback Nation. It lies close enough to Jackson for supplies, but mostly outside of the mania. Jackson has its attractions—wooden sidewalks, cowboy hats, lots of overpriced restaurants, a few of which are good, a few art galleries—but it's the access to nature that makes it a destination. There are a lot of second homes, and the airport is packed with private jets. The US Federal Reserve has its annual meeting in town each August, and a friend caddies for senators and swells.

Jackson is an ongoing test of the belief that we are unconstrained by limits. Just over 97% of Teton County is public land. The county contains all of Grand Teton and half of Yellowstone National Park, the Jackson Hole Mountain Resort, Bridger-Teton National Forest, and the National Elk Refuge as well as other protected areas. The 20,000 people living in the valley are squeezed. Housing prices approach Silicon Valley levels—last year, home prices rose by 32%—traffic is bad and getting worse, and the community is increasingly broken into rich and poor. Jackson's working class, those lucky enough to be born here and inherited, or wise enough to have bought when things were cheap, is aging. The natural beauty has attracted American tycoons and Russian oligarchs; the town is also graced by Hollywood celebrities. Then there are the people who do the cooking and cleaning and building but who can't afford to live here. The young ones rent overpriced apartments or sleep on couches or camp in the National Forest. Workers with families make the drive from distant bedroom communities—Star Valley to the south, and Victor and Driggs, Idaho, to the west, which means driving the Snake River Canyon or going over Teton Pass. Both can be scary in the winter.

Jackson sits in the middle of the Greater Yellowstone Ecosystem (GYE), the greatest expanse of near wilderness left in the continental United States. Salt Lake City is the closest city, some four hours away; Denver is a nine-hour drive. The GYE may be at antipodes to New York and Sao Paulo, but it's no simple "getaway." While few are familiar with

the term, the transhumanist impulse flourishes here, too, in the refusal to recognize limits to either housing and tourism. You also see it in the popularity of extreme sports, where the goal is to constantly push the envelope. Jackson welcomes a constant stream of the exceedingly fit who come here to kayak, ski, snowboard, hike, raft, trail run, snowmobile, mountaineer, paraglide, and mountain bike. Add in the families from Chicago, and the tour buses of Australians and Chinese, and in the summer the parking lots have waiting lines. Even obscure trails are jammed with people who've Googled "best hikes in Jackson Hole."

The local businesspeople assume a world without limit. I recently attended a meet and greet with someone running for city council. The conversation turned to the $7 million that's raised by a local hotel tax, 60% of which is dedicated to advertising to draw in more tourists. I asked, if continued growth is somewhere between undesirable and impossible, shouldn't we stop advertising to bring in more people? The jovial tone of the gathering faltered. A local restaurateur explained that she needed more customers, never mind the clogged streets and trails. I then asked the candidate, a long-time local, if the quality of life in Jackson was better today than 10 or 20 years ago. He answered with a joke—"we certainly have better Mexican food"—and let the matter drop.

"In the beginning all the World was America"—the words of John Locke, inspirer of the US Constitution, in the *Second Treatise of Government*. From the perspective of a crowded Europe, the most salient facts about America were that it was huge and empty. We have forgotten the giddy excitement people once felt in the phrase "the New World." Of course, it was empty only as long as one discounted the natives, but they were soon to die of measles and smallpox and through wars of annihilation.

Locke's political philosophy is built upon the assumption of abundance. And not only an abundance of space. America also seemed infinitely rich in resources. As he claims in Section 33:

> Nor was this *appropriation* of any parcel of *Land*, by improving it, any prejudice to any other Man, since there was still enough, and as good left; and more than the yet unprovided could use. So that in effect, there was never the less left for others because of his inclosure for himself.

"Still enough, and as good left" is an assumption of practical infinity. This was a forgivable conclusion given the population and state of technology in the 17th century. At the time of Locke's death (1704), there were perhaps 250,000 people living in the colonies, less than half the population of London at the time (the native population in what is now the United States totaled perhaps five million, though estimates vary widely). In 1700 it was not possible to imagine the population growth to

come—five million in 1800, 76 million in 1900, and 281 million in 2000. At this writing it's 327 million.

As the New World filled up, Locke's assumptions would have become the recipe for political strife and ecological disaster but for the intercession of a new factor: the inventiveness of science and technology. Julian Simon is emblematic here. Simon, a member of the Party of Infinity, argued in *The Ultimate Resource* (1981) that there is one resource that replaces the need for all others: the human capacity to adapt, invent, or as we might say, evolve. Of course, by adaptation he meant technological innovations rather than efforts at self-control. Whale oil runs scarce, and we will discover a new source of energy (petroleum); fossil fuels cause problems with the climate, and we will turn toward renewables and carbon capture and sequestration. Followed to its conclusion, Simon's vision ends in the manipulation of reality at the atomic level, where any material can become any other material. Simon, however, wasn't quite a transhumanist. He didn't contemplate that this inventiveness would be turned inward.

Simon's was a technology of substitution. Substitution doesn't capture the entirety of technological innovation. There's also the continuing invention of new devices to relieve the burdens of life. But in either case, his is an audacious bet that we will be able to invent our way out of all our difficulties.

2

Grant Simon his due: whatever failures may lie in the offing, he's been largely correct across the last two centuries. Humans have been quite clever at devising work-arounds. Nonetheless, even on the assumption of continued success, there are elements missing in Simon's account. These elements are tied to the central concern of this chapter, where I will offer words in support of a largely discarded term: nature.

Among the philosophically adept, nature is dismissed as a moral category. It is thought to provide no guidance on how to live. John Stuart Mill's *Nature* (1874) is the classic source here, but the last 30 years have seen a legion of writers who have declared the idea obsolete, repressive, and empty. Mill claimed that appeals to nature either make no sense or constitute a practical call for immorality (i.e., what is more natural than disease, suffering, and death?). In more contemporary critiques, nature is seen as a dead concept because of the sheer magnitude of human activity. McKibben (1989) and Cronon (1995) argue that humans have been modifying the planet for millennia, and there's no place that is not marked by our activity. Finally, the term has suffered eclipse among those who see personal identity and cultural norms as purely a social construction.

Nature, however, won't stay dead. Like the thing itself, the concept inevitably arises again. Perhaps we should attend to the fact that it seems

impossible to denaturalize our thinking. Attempts at a final dismissal seem doomed to failure.

Simon imagines a world of infinite substitution where everything can be exchanged. In so doing, he neglects questions of *identity*, or of uniqueness, and of *autonomy*. He argues that we can switch from one energy source to another, and make a given product out of different materials. But this offers no help when what we are concerned with is *sui generis*, when what matters is the unique identity of the thing. In such cases a replacement will not do. Similarly, sometimes the attraction of a thing lies in its *not* being governed by us, where it gives a law to itself.

These points were raised in Chapter 6 in the case of human modification: in what sense is a vastly more intelligent version of you still you? Now consider the point in terms of landscapes. We are attracted to their unique, self-created features. Yes, every landscape has been affected by our actions; this is why McKibben can speak of the end of nature. But this is to claim too much. The fact of ubiquitous human influence doesn't require that we ignore the differences between Yellowstone, a pastoral landscape, and Manhattan. In Yellowstone and even in Hoback a largely autonomous nature holds sway. Acknowledging this gives us a reason to exercise restraint to allow things to go their own way.

In the case of landscapes, we can identify two types of constraint, one physical, the other phenomenological in nature. For the first, just so many cars can squeeze into a parking lot. For that matter, just so many parking lots can be built before Yellowstone becomes a parking lot. But before we reach this point another type of limit asserts itself. This is the sense of limit in terms of lived experience. It's possible to pack more people on the boardwalks leading to the geyser basins in Yellowstone, but not in a way that respects the integrity of the experience. Summertime in Yellowstone is already largely ruined, as unruly crowds jostle one another at the attractions, and traffic jams encourage people to indulge in behavior that's typical of Black Friday shopping. (Although with planning and effort it is still possible to avoid the tawdriness: even in the summer the geyser basins are nearly empty at first light, and hiking a mile or two in on a trail usually disperses the crowd.)

These places are special, and worth protecting, because they cut away the dross of life. They bring us closer to the heart of things. Within broad margins, there is an authenticity of experience at such places that we can feel and know. We can also feel it when this authenticity has been damaged or lost. This isn't mystery mongering, but rather the plain recognition that we are in the presence of great forces beyond our control. This point—the authenticity of experience—is often evoked, and just as often ridiculed, but strangely it gets little practical, policy-oriented attention. It's not because this issue is so soft-headed or arcane. The issue is ignored because it runs into our unwillingness to acknowledge that the jig is up. Attending to the authenticity of experience would require that we place

limits on our behavior. It would mean limiting access to Jackson and the surrounding parks. It would entail expecting people to observe a level of decorum analogous to the practice we expect at church or in a museum, but which has been lost in other venues. (Go to YouTube and look at how people dressed to attend a baseball game 50 years ago, much less a church.)

One finds the occasional exception where these facts have been faced. When I first visited Slide Rock in Oak Creek Canyon in the 1970s, the traffic and the crowding wasn't bad. But by the 1980s the place was a mess: cars haphazardly parked along the road, an abundance of broken glass, and in the creek dangerous levels of fecal coliform. The state intervened and made it impossible to park on the side of the road. The state also built bathrooms and created a gated parking lot where you paid a fee. In effect, they restricted access. People learned that they had to arrive by 9 a.m. if they wanted a parking spot. Otherwise you sat, waiting for one car to leave before yours is allowed in.

But we resist generalizing this point. We remain passive until forced to act by physical limits. By that point much has already been lost. In part, it represents a failure to recognize and honor the distinctive elements of humanistic thought. You see this in National Park Service hiring practices. Overwhelmingly, the Park Service hires natural and social scientists. It is as if they believe people go to the parks for reasons of science. The Grand Canyon is preeminently a geological phenomenon, but the geology isn't the point; it's what the geology evokes. Geology serves as the medium for people to experience beauty and awe. Rather than only hiring sedimentologists or resource managers, visitors would be better served by people with backgrounds in aesthetics and theology who could help them understand and express their experience of the parks.[1] Lacking this vocabulary, and caught up in the crush of crowds, people revert to default responses such as treating nature as a jungle gym.

Places reach and exceed their carrying capacity, not only in an ecological sense but also in the sense of lived experience. The problem, now dubbed *overtourism*, bedevils Venice and Florence, Machu Picchu and the Great Wall as well as Yellowstone. My evocation of places like Yellowstone and Hoback will strike some as a bucolic reverie. We cannot all live in Hoback; we must also inhabit Ames and Austin, Cincinnati and New York, Santiago and Sao Paulo. But we can learn from places like Hoback to set ourselves on a path of greater sanity.

3

Transhumanism offers its own solution to the problem of substitution. And it has an idea for how to preserve the autonomy of unique landscapes. It can make it possible to hike alone in a pristine Yellowstone and to eliminate the unsightly electrical substation and power lines of

Hoback. The technology to do this is not available quite yet, but soon we can have this and much more. All we have to do is accommodate ourselves to life in virtual reality.

We saw this vision of things in *The Matrix* (1999). But from the perspective of the transhumanists, *The Matrix* was unnecessarily dystopian and metaphysically retrograde. It expressed a reactionary nostalgia for the real. What does it matter if our life is spent in a pod, if we can't *tell* that we are in a pod? Who cares if an artificial intelligence lives off of our bioenergy, as long as we are happily entertained? If our life is a dream, dream on.

One can lodge technical objections to these possibilities—that the yellows of Yellowstone won't be as vibrant in virtual reality, or the system might be turned to malevolent ends, or it could malfunction, leaving us lord knows where. But as I've already noted, those who bet against the technologists have a poor track record. It seems unwise to allow the possibility of technological inadequacy to distract us from considering the metaphysical moment that is at hand.

We are on the cusp of a remarkable moment in human history, where metaphysics becomes a matter of public policy. Technology could make it possible to live in a virtual world indistinguishable from what we used to call reality. (As noted above, the same may be possible via drugs.) And not only indistinguishable: virtual reality may be able to deliver a cleaned-up and sparkling reality in some ways better than the smudged and damaged world that we inhabit. As for autonomy, if you want your natural environment to be self-directing, simply adjust the algorithm. You can allow the weather and the grizzlies to be as dangerous as they might be. Take off the fail-safe and it could even become possible to die in virtual reality (and perhaps, as in a video game, you could be given multiple lives). For that matter, the virtual possibilities do not only encompass the outer world. You can live as a younger, thinner version of yourself and become one with your avatar.

But we should not limit our concern to future possibilities. A central theme of this work has been that the importance of transhumanism is not limited to the likelihood of its particular goals. Transhumanism reveals the core fact of contemporary society, where our reliance on science and technology has become existentially dangerous. Technology is in the saddle and rides us. We use remarkably sophisticated technology to satisfy increasingly juvenile and infantile urges. This paradox is obvious in the prevalence of porn sites that "satisfy" our sexual needs, but more insidious is the draining of meaning from communal life. Overwhelmed with choices and opportunities, our indolence increases. Our isolation grows, too, as multiple screens make it less and less necessary to leave home. We buy our products from Amazon and conduct our relationships in cyberspace rather than social space.

It's not helpful to demonize technology. Technological advance will form an essential part of creating a sustainable future. Ecomodernists

have been clear on this point, emphasizing the need for technology to lessen our environmental impacts. They rightly appeal to humans to "use their growing social, economic, and technological powers to make life better for people, stabilize the climate, and protect the natural world" (Asafu-Adjaye et al. 2015). To pick one outstanding example, the transition to a carbon-free energy infrastructure will require a wide range of technological advances.

But the ecomodernists err in neglecting the human factor. Seeing that technological advance makes up part of the truth, they overreach and assume it will constitute the entirety of it. Ecomodernists fail to distinguish between the need for technological innovation to lessen our impacts on nature and the promotion of technology to solve all our ills. For technological innovation cannot supplant the need for prudence and maturity in the creation of a soul. On the contrary, the growth of our technological prowess makes the exercise of restraint all the more essential.

In their 2011 essay "Evolve," ecomodernists Michael Shellenberger and Ted Nordhaus see the problem of floods that regularly plague Venice as

> an apt metaphor for solving this century's formidable environmental problems. Each new act of salvation will result in new unintended consequences, positive and negative, which will in turn require new acts of salvation. What we call "saving the Earth" will, in practice, require creating and re-creating it again and again for as long as humans inhabit it.
>
> (https://orionmagazine.org/article/evolve/)

They are referencing MOSE (Modulo Sperimentale Elettromeccanico), the set of 78 floodgates that when completed could temporarily isolate the Venetian Lagoon from the Adriatic Sea during high tides. The project has been beset by cost overruns, and the barriers have been eroded by mold; its hinges are breaking after being colonized by mussels. On Shellenberger and Nordhaus' account, this is only to be expected. They imagine an unending cycle, where the failure of a technological fix calls forth another round of technology. Their sense of adaptive management is laudable, and they have devised a reliable schedule of work for the engineering community. But it's also a bit one-sided. They find nothing ironic in the fact that adjustments all come on the side of further technology rather than through attempts to adapt to changed circumstances.

But let's imagine that successive iterations of MOSE were to work out in not too costly and intrusive a fashion and Venice is preserved. But the floodgates will do nothing to stop the flood of tourists. Venice, a city of 250,000, is visited by some 25 million visitors a year. Tourist accounts are replete with descriptions of a city overwhelmed, vacations spoiled, and

native Venetians abandoning an overrun community.[2] Shellenberger and Nordhaus describe our challenges as amenable to technological intervention, but their account brings us back to questions of limits. For our challenges will never be solely technological in nature; they will also involve ethical, political, aesthetic, and metaphysical issues that no technological wizardry can address.

The previous chapter quoted Ausubel's summary of our situation, that "Human nature is probably harder to change than technology." Hirschman's *The Passions and the Interests* (1977) notes that modernity abandoned a key assumption of the ancients, that it was possible for at least a fraction of humanity to control their passions and to follow the dictates of reason. This points up why the ancients were suspicious of democracy. There would always be a subsection of the population who, whether because of character or upbringing, could not control themselves.

The embrace of democracy by modernity is of a piece with the abandonment of the ideal of reason as sovereign over our appetites. As Hirschman notes, if reason is impotent to control the passions, then the only thing that can control a passion is another passion—avarice counterbalanced by fear, self-dealing by the desire to acquire still more. This is the logic of capitalism, where private vice leads to public virtue. It also implies that if the passions are unmanageable by reason, then we are left with only technical approaches to our problems.

But technical solutions can only take us part of the way forward. One way or another, we will reach the effective limits of our pursuit of infinity, and will be driven back to perennial questions of reason, character, and restraint. In terms of politics, this means addressing issues like the fact that social media has rendered moot the limits on democracy that the Founding Fathers built into the US Constitution. More generally, it implies overcoming our reflexive libertarianism as well as placing a governor on our laissez-faire approach to technological development. Both of these points are unlikely to get traction today, which is why it sometimes seems that only a medium-sized catastrophe can save us from even greater calamities. But one of the roles of philosophy is to sketch out alternative paths for our common future. This book is written in the hope that an alternative path will become possible through a shift in the Overton Window.

The future I imagine, and hope for, is one that not merely recognizes, but actively embraces limit and restraint. Not in all aspects of our lives; excess can also be a virtue, and exerting oneself to the maximum degree a source of pleasure and occasionally greatness. The wilderness writer and philosopher Edward Abbey offered a pointed critique of Aristotle when he proposed what he called "moderate extremism." In his case, that meant six months living in the Utah wilderness followed by six months in Hoboken, New Jersey. Abbey had a point: Aristotle's doctrine of the

mean shouldn't become an excuse for mediocrity. Rather, the goal is to find a rhythm between excess and restraint.

4

> In the evolution of humankind, a surround of living plants, rich in texture, smell, and motion. The unfiltered, unpolluted air, the flicker of wild birds, real sunshine and rain, mud to be tasted and tree bark to grasp, the sounds of wind and water, the calls of animals and insects as well as human voices—all these are not vague and pleasant amenities for the infant, but the stuff out of which its second grounding, even while in its mother's arms, has begun.
>
> —Shepard, *Nature and Madness*

The argument here has been implicitly Buddhist in nature: it's offered a critique of the notion of infinite desire, which lies at the heart of transhumanism and of modern science and technology generally. It's offered a defense of limit, which I've tied to the idea of nature. I've noted the irony of offering an argument concerning the inefficacy of arguments, but here is my argument again: mood and tone are more persuasive than logic for changing people's minds, and cultural productions a more powerful means for effecting political change than policy papers. One result of this has been my defense of censorship in the arts, albeit in a form that focuses on tone rather than on any particular statement or subject matter. Rather, I embrace the attitude expressed by a character in Steinbeck's *East of Eden*: "There are no ugly questions except those clothed in condescension."

Talk of censorship, however, doesn't adequately capture my point. It's more accurate to think in terms of limit and the connections between it and mood, tone, and rhythm. Of course, like censorship, limit is viewed negatively: it's seen as a set of handcuffs, a border with a no trespassing sign, a carceral inside and a free outside. There's something right in this description, of course, and we often see people constrained for unjust reasons. But there are positive aspects to the idea of limit as well. Let's shift the metaphor to things less static and border-like—to the style of the conductor, the speaker's pregnant pause, and the comic's fine timing. All these involve patterns that imply observing a limit. Getting in tune with someone means finding a common rhythm, and rhythm is repetition that obeys an implicit rule. I see these rhythms as ultimately derived from nature—both our own and in nature writ large.

Music offers examples of the kind of limit I have in mind. In music, timing is everything. Tempo ("time" in Italian) is the speed of a piece: musical terminology has a whole set of terms for indicating mood and tempo. Allegro and presto both denote a fast pace: presto is faster, but allegro also includes the sense of joy (from the Latin *alacer*, happy or

cheerful). To keep time doesn't mean to be straitjacketed, but it does require discipline and attentiveness. With a rhythm once established, music then invites artful interruptions of its order via improvisation and group interaction, preeminently in the art form of jazz. The musical sense of temperament also emphasizes the subtleties of tuning for harmonious sound, just as the root meaning of a symphony contains the idea of rhythmic harmony.

In *Being and Time* Heidegger emphasizes the importance of mood and attunement (*Stimmung*): the meaning of things comes as much from the melody (e.g., a sincere or sardonic tone) as from the lyrics (i.e., propositional content) of a conversation. And time was so central to his thinking that he saw it "as the possible horizon for any understanding whatsoever of Being." But Heidegger makes little effort to connect the two, or to highlight the musical element in human relations and the centrality of rhythm in our lives.[3] Questions of timing and cadence, as they manifest themselves in music and in our personal and social lives, were too ontic, and in any case his aesthetic interests seems to have run in the direction of painting, sculpture, and architecture. Combining mood and temporality in music helps us appreciate the ways in which the observance of a limit can keep things at a human pace. It is this pacing that's being lost by our growing immersion in technology.

Of course, the rhythms we experience aren't only musical in nature, and many of our musical rhythms are themselves rooted in natural processes. We are surrounded by natural cadences; music is a response to the beat of life. We are constituted by rhythms. They reside in our heartbeat and breathing; the heart is the original metronome. Our experience of day and night turns on a circadian rhythm, and no matter where we live we become attuned to the habits of animals and the cycle of the seasons. Conversely, we are disturbed when climate change throws off the cycles that plants and animals had counted on for millennia.

Paul Shepard highlights our kinship with natural patterns across a series of books, perhaps the most prominent of which is *Nature and Madness* (1982). Shepard sees us suffering from a culture-wide mental illness rooted in our being out of sync with nature: "Culture in racing ahead of our biological evolution, does not replace it but is injured by its own folly" (p. xix). On Shepard's view of things, transhumanists make a Cartesian assumption of the separation of mind and body, when in fact our consciousness extends throughout our body, and our psyche has evolved in concert with a surrounding social and natural environment.

For millennia this environment consisted of small social groups living in constant contact with nature. Then this anthropological and (in deference to deep time) geological fact was destroyed in the blink of an eye. We've ignored the paleontological dimensions of culture, where our habits, reactions, and sanity are rooted in ancient rhythms. According to the evidence available, modern humans are perhaps 200,000 years old;

some of our social habits go much further back than that, to the time of *Homo erectus* and even to our mammalian past. After all, we are kin to ape, moose, and elk. Already some two million years ago, *Homo erectus* lived in hunter-gatherer societies and knew how to control fire.

But whether we pick the more ancient or more recent number, for nearly all of our existence as humans we have lived on the move, with few possessions, in close proximity to plants and animals, surrounded by and submerged in the natural world. This way of life began to markedly change only with the agricultural revolution circa 10,000 BCE. Even if we take the more recent number of 200,000 years, this is 95% of the way through the history of our species. Agriculture made settlements and possessions possible. The Industrial Revolution occurred a mere 200 years ago, 99.9% of the way through our history. Just think of the changes since then: until the mid-19th century, human locomotion was limited to the speed attainable by a horse or a sailing ship. With a few exceptions (e.g., smoke signals), this also marked the maximum speed for transmitting information. But since the mid-19th century changes have come in a flash: electric lights, indoor plumbing, instantaneous communication at a distance (the telegraph was invented in 1844, the telephone in 1876), the growth of mega-cities with the resulting anonymity of city life, heavy machinery, birth control, Google, Facebook, Skype, and so forth. We express concern about attempts to domesticate wild animals, but we have done nothing less to ourselves.

I am not making a normative point. I'm not claiming that life in the Pleistocene, with its lack of ibuprofen and dental care, was better than life today. The point isn't that our recent inventions are bad; clearly, in many cases they have been quite salutary, tremendously increasing our health, safety, and comfort. For instance, electric lights have banished long dark nights of appalling boredom. The point is simply that we haven't co-evolved with these innovations. Our bodies and minds are out of sync with the world we've built. On Shepard's account, the result has been systemic and culture-wide neurosis and psychosis. And in the face of this situation we make plans to accelerate things even further.

It's left our moral life out of joint. Not so long ago we immolated cats for an evening's entertainment. We have matured some since then, but we still struggle to catch up to our new situation. We see this in our gender relations: male dominance made a limited kind of sense in a world of brute human force, and our social relations reflected this. Now, in a world where human strength is trivial and mostly a matter of aesthetics, it has become a pernicious anachronism. Men must act better, full stop. But is it any wonder that some men struggle to adapt to their new circumstances? (Our growing awareness of bad behavior makes watching older movies a bizarre exercise: spend an evening with *The Quiet Man* (1952), where an older woman happily says to John Wayne, "here's a good stick to beat the lovely lady.")

Shepard offers a psychohistory not of individuals but of whole cultures. This means that he believes there are norms that are transcultural, that is, natural in character. He frames his point in terms of maturity: "To invoke psychopathology is to address infancy, as most mental problems have their roots in our first year of life." I noted earlier that technology promotes a kind of cultural neoteny, where juvenile features are retained into adulthood. This is visible in the way that via technological development we've slipped by degrees from necessities to luxuries and finally to trivialities, unwilling or unable to distinguish between different types of possession, as if all this stimulation has overwhelmed our sense of probity and proportion. Obvious absurdities made possible by technoscientific advance, such as sports stars getting quarter billion-dollar contracts and trivial inventions leading to accidental billionaires are passed over without comment. In conditions that approximate a lab experiment, I've seen people of mature years, well-presented in appearance, watch a movie on the airplane from the beginning to the end of a two-and-a-half-hour flight, where the action consisted of the nonstop discharge of weaponry, violent explosions, and mangled bodies. They evidently have no sense that they are engaging in a morally questionable activity. But like the burning of cats, I believe we will eventually see this behavior as depraved.

I've cast my points about limit at a certain level of abstraction. But it's possible to get quite concrete about the kind of limits that Arendt, or at least I am thinking of. There is a natural rhythm to the fashioning and enjoyment of a meal: pouring a glass of wine, cutting vegetables with care, timing the salmon, and tending to the penne to make sure it's taken out at the right moment. To have a machine that does this all this instantly and effortlessly wouldn't save us time; rather, it would drain meaning from the time that we have. The same is true for the dinner itself: one doesn't treat a celebratory meal as an occasion for fast food. There is a pacing to situations that allows circumstances to ripen. One does not—or should not—rush when playing with a child or when spending time with a sick relative. At a larger scale, there is a pattern to the well-lived day, just as there is a natural unfolding to the stages of our life, even as we may struggle against our coming end.

These patterns are most true of the natural world. We all have watched the quickening of the Earth with the arrival of spring. Here in Hoback, everyone knows that the rivers run high and muddy in May, filled with the winter's snowmelt, and that the flow will slacken in midsummer. In the fall the bears are especially active as they store up food for the winter, and the sun comes in the windows at a lower angle, naturally warming the well-designed home. But even city dwellers are embedded in these cycles, whether or not they attend to them. When we need to think things through, we go for a walk; the steadiness of the environment, whether wild, urban, or suburban, helps us work out our problem. Spring growth and fall dieback, last winter's carcass and the fledging of ospreys mirror

the cycles of our own lives. The boundaries of these activities are quite broad, but this should not obscure the presence of natural rhythms to many of the elements of our lives.

5

> The answer is not to try to slow down technology. Humans need to race with the machine.
>
> —Erik Brynjolfsson

In 522 CE, Anicus Manlius Severinus Boethius seemed the most fortunate of men. Translator of Aristotle and Plato, as well as an orator, poet, and musician, in 510 he had become consul of the Ostrogothic Roman Empire under Theodoric. In 522 his two sons had the honor of being named co-consuls of the eastern and western parts of the Empire, and Boethius became *magister officiorum*, head of all government and court services.

Within a year Boethius was in prison. Deprived of all his wealth, and falsely charged with treason, he would be executed in 524. But before he died he wrote one of the great pieces of prison literature, *The Consolation of Philosophy*. Translated by Chaucer and Sir Thomas More, and central to *The Divine Comedy*, for the next thousand years the work was one the most influential works in the West. Its message is one of classic stoicism. Angry and despondent at his sudden change of fortunes, Boethius is visited by Lady Philosophy, who teaches him to not tie his happiness to the randomness of fortune, but to instead focus on those inner things that are under his control.

This counsel has renewed relevance today, as our situation echoes the situation of Boethius. The mechanisms are different, of course. Boethius was subject to sudden illness and governmental caprice in ways that we have in large measure mitigated, at least in the West. But we are exposed to anonymous and all-pervasive control in ways that Theodoric couldn't have dreamed of. We live our lives in a panopticon; rather than walls, we are imprisoned in a web of data that has been gathered from us unwittingly or that we've thoughtlessly given away. Webcams now cover nearly every public space, making it possible to retrospectively track the movements of the Boston Marathon bombers. And that was in 2013: every year the forest of cameras grows. This is also true of literal forests, too: I recently found a bark-colored camera with no markings of ownership wrapped around a tree at the edge of the Hoback River.

The information we give away is remarkable. We flash our grocery card at checkout to save $1.23, not even asking what we are providing in exchange for a pittance. We use the traffic feature in Google Maps to check for snarls, little thinking how this feature is derived from each

of our cell phones marking our location, speed, and direction. We see ourselves as increasingly in control of nature, and this is in some ways correct; but for the vast majority of us, we are the playthings of forces that we cannot begin to affect or control. We can consume to our heart's content—as long as we can afford it, or put it on our credit cards. But in crucial ways we have been dispossessed, daunted by a corporate authoritarianism, our lives increasingly governed by a global kleptocracy.

I've called it the Wizard of Oz effect: our situation now repeats on the level of politics and economics the dynamics that led to the demise of the Hays Code. Science and technology have broken down the barriers that had once kept self-dealing and corruption within limits. It turns out that the capacities of the nation-state are no match for technology-enabled instantaneous flows of global capital.[4] Our leading corporations embrace this kleptocracy. Apple has a quarter trillion dollars of cash on hand, which it parks on the island of Jersey, 12 miles off the coast of France. It earned $45 billion outside the United States in 2017 while paying $1.65 billion in foreign taxes—a rate of less than 4%. The European Union is now demanding that Apple pay $15 billion in back taxes (Pressman 2017). We have already seen the role of Facebook in the 2016 US presidential election, issues that continue as this book goes to press. And the web is being woven ever tighter.

In the face of global mechanisms of control, what are our choices? I've surveyed the ones that I see: philosophical analysis, a change in zeitgeist prompted by artistic vision or prophetic politician, or the questionable goodness of a medium-sized catastrophe. And finally, the stoic alternative: cultivating a less burdensome lifestyle for oneself and in concert with family, friends, and neighbors, living a private life while taking the long view. *Sub specie aeternitatis*: the Earth will be fine in the long run. A more benign form of intelligence might even eventually develop. After all, the Earth has all the time in the world.

In "Dover Beach," Matthew Arnold offers an account reminiscent of stoicism, in a work that is simultaneously melancholy and comforting. Its most famous line, "Where ignorant armies clash by night," rests in counterpoint to a grounding in nature:

> The sea is calm tonight.
> The tide is full, the moon lies fair
> Upon the straits; on the French coast the light
> Gleams and is gone; the cliffs of England stand,
> Glimmering and vast, out in the tranquil bay.
> Come to the window, sweet is the night-air!

The stories in the papers today are not comforting: the massive loss of insects worldwide, and a new initiative announced to return the United States to global dominance in AI. I fear that things will not end well.

Maturity is a forgotten art; we are surrounded by childish displays of ego. We continue to pursue toys and trivialities when there are people lacking basic necessities and the natural world is in eclipse. Silicon Valley did not invent the ethos of the 15-year-old boy; they have only madly promulgated it.

In the face of such losses I find comfort in the stony Earth. The Earth's strata teaches us scalar qualities and the telescoping of time, where the now we inhabit simultaneously embraces the pleasures of the current conversation, the weather of the day, the vicissitudes of the Trump presidency, the joys and sorrows of the early 21st century, the warmth of the Holocene and the ice of the Pleistocene, and the recent tragic loss of the dinosaurs at the end of the Cretaceous. All of these times are now, and all are a part of all of us.

Looking upriver this February morning, the sky is gray and the snow is deep. It piles in small sedimentary layers against my window, translucent in the glare of sun. No longer fretted by the winter's cold, the bark beetle has done damage to the forests here—though fortunately, not to Rogers Ridge. It's warmer than it should be for February, but this has its compensations: warmer air holds more moisture, which means more snowstorms. The snow is falling now. It's time to go outside.

Notes

1. In the early 2000s, I created a program within the Park Service called Humanities in the Parks: it placed graduate students in the humanities in the parks to help with visitor experience. It ran for two summers. The Park Service response was quite positive. It eventually failed for two reasons: my inability to secure additional funding for the student internships, and suspicion on the part of graduate students in the humanities that this counted as "real" philosophy, literature, and so forth.
2. The response on the part of cities testifies to how locked in our thinking is on this topic. A number of cities (including Venice) are considering entry fees and tourist taxes. But what then to do with the revenue? "The obvious way is to improve the infrastructure, including widening roads, improving utilities and expanding hospitals to accommodate the increasing flow of people" (Noack 2018).
3. I am indebted to John Van Buren for alerting me to this passage from Heidegger's 1921 lecture course: "Philosophy is no techne, but rather is more like 'making music'" (*musizieren*)—a comment that seemingly was not followed upon.
4. "Officials around the world have always looted their countries' coffers and accumulated bribes. But the globalization of banking made the export of their ill-gotten money far more convenient than it had been." Franklin Foer, "Russian-Style Kleptocracy Is Infiltrating America," *Atlantic*, March 2019.

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